

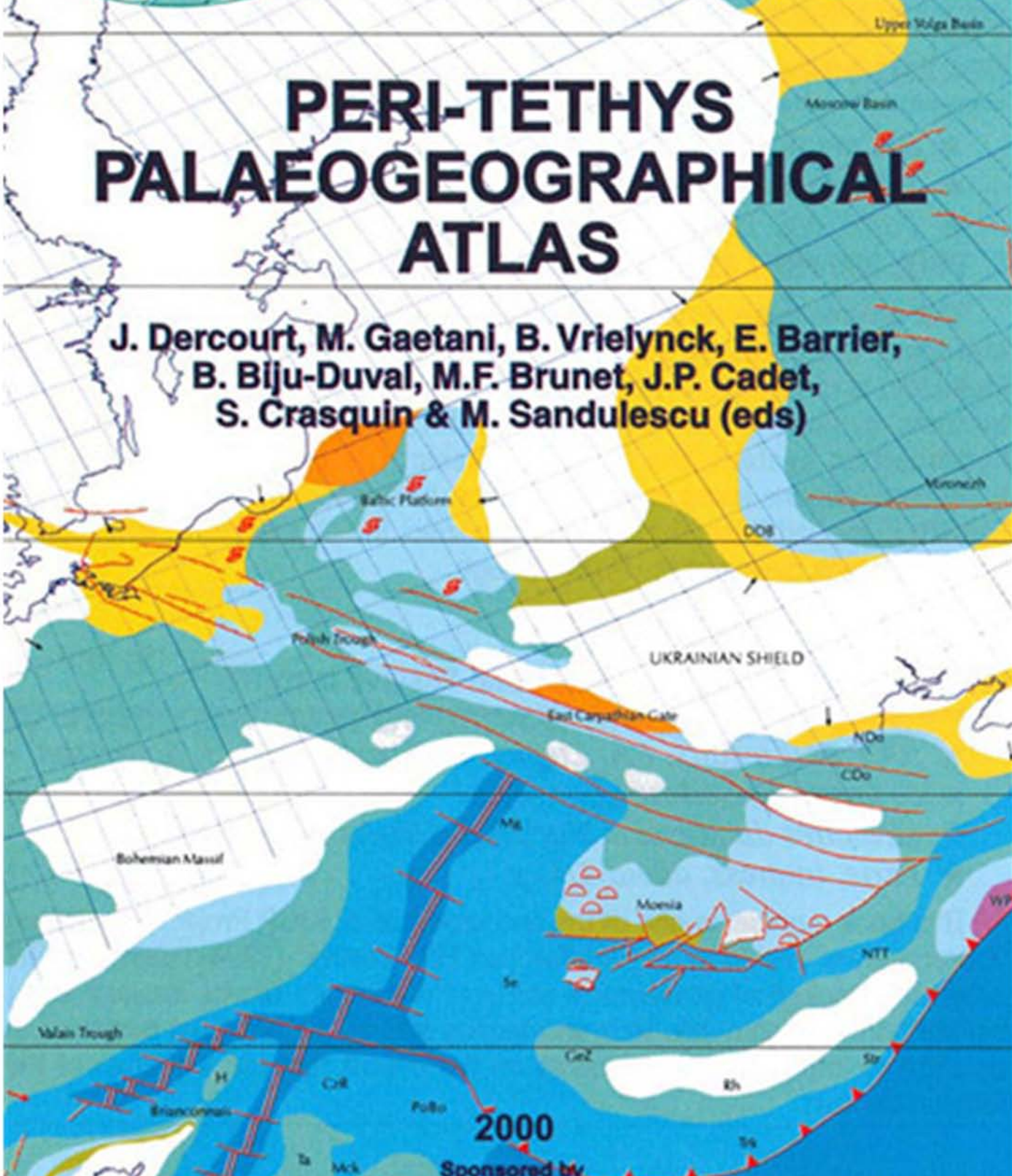


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PERI-TETHYS PALAEOGEOGRAPHICAL ATLAS

J. Dercourt, M. Gaetani, B. Vrielynck, E. Barrier,
B. Biju-Duval, M.F. Brunet, J.P. Cadet,
S. Crasquin & M. Sandulescu (eds)



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MAP 1

MOSCOVIAN
(312-305 Ma)

Author : VAI G.B.

Co-authors : IZART A. (1), BROUTIN J. (2), CHUVASHOV B.I. (3), VASLET D. (4)

Contributors : CASSINIS G., DI STEFANO P., GELUK M., GORUR R., HOEPFNER C., JOLTAEV G., MAKHLINA H., KORA M., KOSSOVAYA D., KOVACS S., MASSA D., OPLUSTIL S., NIKISHIN A., SCHNEIDER J.W., SEGHEDI A., SHEGOLEV A., VENTURINI C., VILLA E., VOZAROVA A., EL WARTITI M., YANEV S.

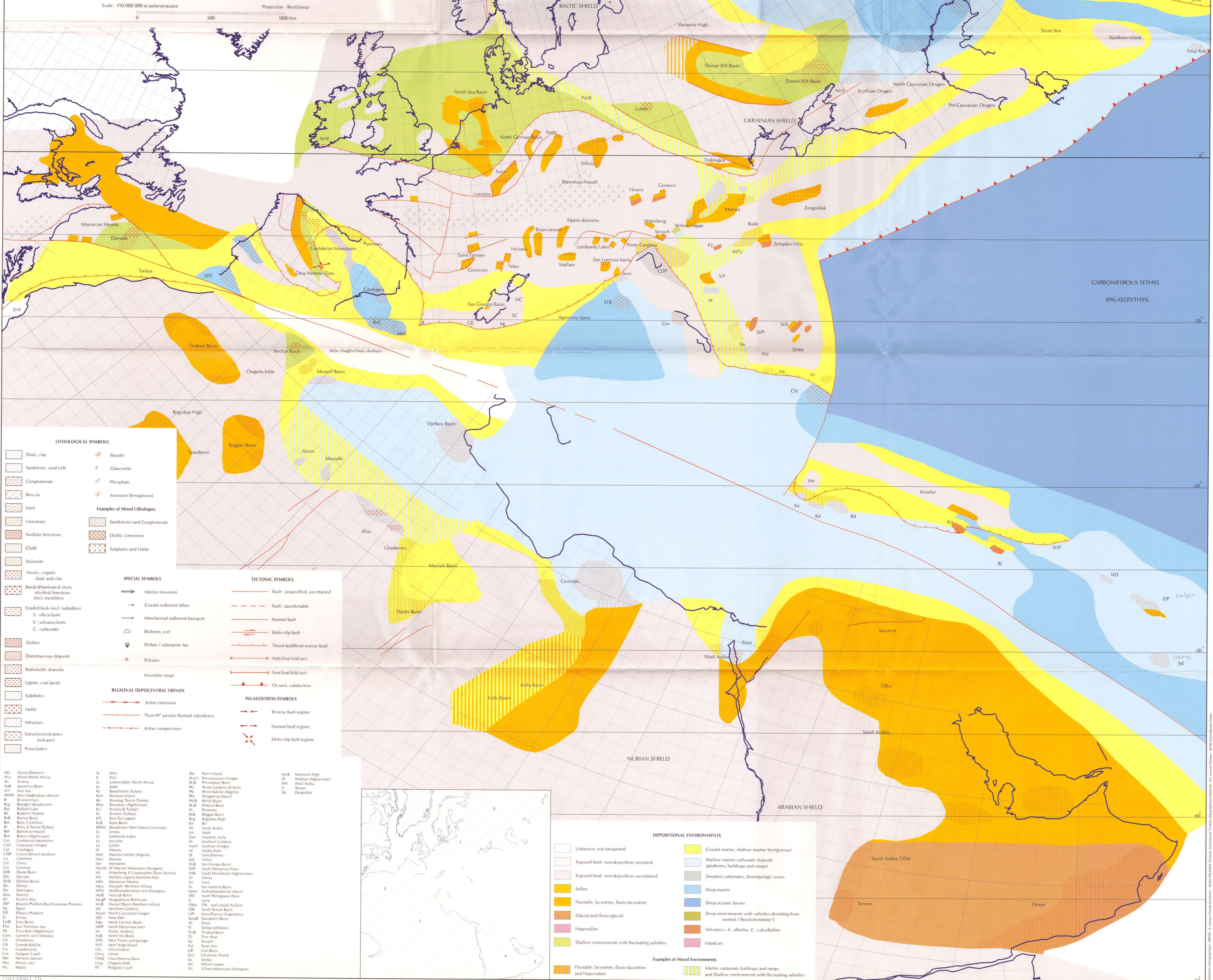
Kinematic reconstruction : VRIELYNCK B.

Cartography & spatial database : VRIELYNCK B.

Digits and letters on the index map refer the authorship for palaeogeography and tectonics, respectively. Area with no specific authorship completed according to the literature or on author's data.

Scale : 1/10 000 000 at palaeoequator

Projection : Rectilinear





PERI-TETHYS Programme : DER COURT J., GAETANI M., VRIEYCK B., BARRIER E.,
BIJU-DUVAL B., BRUNET M.F., CADET J.P., CRASQUIN S., SANDULESCU M.

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MAP 2

ARTINSKIAN (280-273 Ma)

Author : VAI G.B.

Co-authors : IZART A. (1), BROUTIN J. (2), CHUVASHOV B.I. (3), VASLET D. (4)

Contributors : CASSINIS G., DI STEFANO P., GELUK M., GÖRÜR R., HOEFNER C., JOLTAEV G., MAKHLINA H., KORA M., KOSSOWA D., KOVACS S., MASSA D., OPLUSTIL S., NIKISHIN A.,
SCHNEIDER J.W., SECHEDI A., SHEGOLEV A., VENTURINI C., VILLA E., VOZAROVA A., EL WARTITI M., YANEV S.

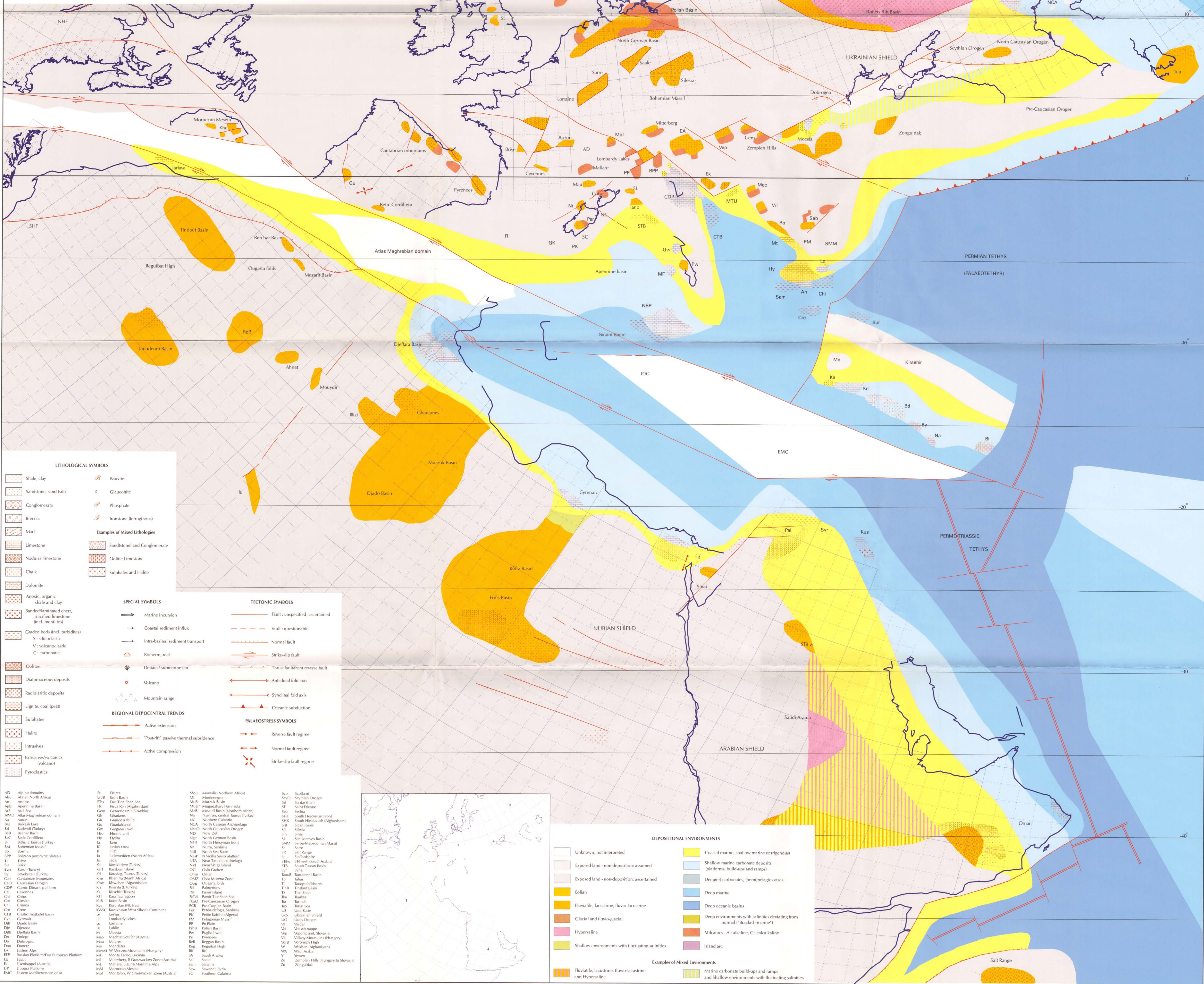
Kinematic reconstruction : VRIEYCK B.

Cartography & spatial database : VRIEYCK B.

Scale : 1/10 000 000 at palaeoequator

Projection : Rectilinear

0 500 1000 km





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EXXON, IFP, SHELL, SONATRACH, TOTAL, UPMC.

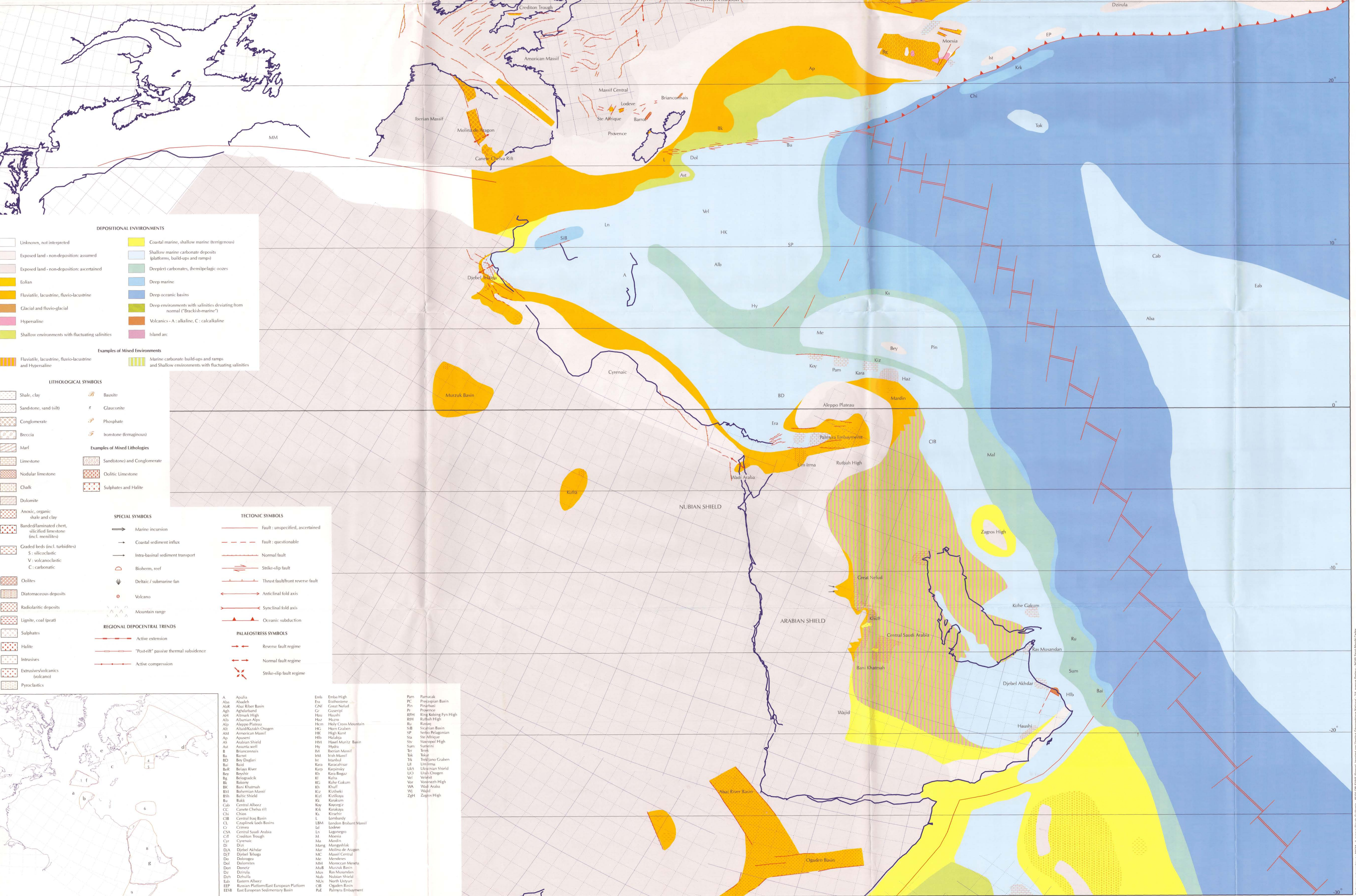
MAP 3 **WORDIAN**
(266-264 Ma)

Authors: GAETANI M.
 Coauthors: ARCHE A. (1), KIERSNOWSKI H. (2), CHULVACHOV B. (3), CRASQUIN S. (3B), SANDULESCU M. & SECHEDI A. (4), ZAGORCHEV I. (5), POISSON A. (6), HIRSCH F. (7), VASLET D. (8), LEJTEJOUR J. & ZIEGLER G. (6), ABBATE E. (9), ABT-IRAHIMI H. (6), BARRIER E. & BOUAJIZ S. (6), BERGERAT F. (4), BRUNET N. (6), CADET J.P. & STEPHENSON R. (D), GUZMÁN J. (10), JABALY A. (1), LEPRVIER C. (1), RIMMELÉ G.
 Contributors: BONNEAU M., GUILLOCHEAU F., GUIRAUD R., LAMARCHE J., MAMI L., MASLE G., MOSTAFA M., OUIDJ M., ROBIN C., SEBRIER M., SWIDROWSKA J.
 Kinematic reconstruction: VRIEYENCK B. & OLIVET J.L.
 Cartography & spatial database: VRIEYENCK B.

Tethyan area after the Late Murgabian map (Baud et al.) of the Tethys Atlas (Dercourt J., Ricou L.E. & Vrielynck B., 1993), modified

Digits and letters on the index map refer the authorship for palaeogeography and tectonics, respectively. Area with no specific authorship completed according to the literature or on author's data.

Scale : 1/10 000 000 at palaeoequator Projection : Rectilinear





PERI-TETHYS Programme : DERCOURT J., GAETANI M., VRIELYNCK B., BARRIER E.,
BIJU-DUVAL B., BRUNET M.F., CADET J.P., CRASQUIN S., SANDULESCU M.

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MAP 4

OLENEKIAN (245-243 Ma)

Authors : GAETANI M.

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ZAGORCHEV I. (9), NIKISHIN A., NAZAREVITCH V. & BOLOTOV S. (10), CRASQUIN S., KUKHTINOV D.A. & ZHIDOVINOV S. (11)

Contributors : BUDUROV K. & GEORGIEV G.

Kinematic reconstruction : VRIELYNCK B. & OLIVET J.L.

Cartography & spatial database : VRIELYNCK B.

Digits and letters on the index map refer the authorship for palaeogeography and tectonics, respectively.
Area with no specific authorship completed according to the literature or on author's data.

Scale : 1/10 000 000 at palaeoequator

Projection : Rectilinear

0 500 1000 km

DEPOSITIONAL ENVIRONMENTS

- | | |
|--|---|
| Unknown, not interpreted | Coastal marine, shallow marine (terrigenous) |
| Exposed land - non-deposition: assumed | Shallow marine carbonate deposits (platforms, build-ups and ramps) |
| Exposed land - non-deposition: ascertained | Deeper carbonates, (hemipelagic oozes) |
| Eolian | Deep marine |
| Fluvialite, lacustrine, fluviolacustrine | Deep oceanic basins |
| Glacial and fluvioglacial | Deep environments with salinities deviating from normal ("brackish-marine") |
| Hypersaline | Volcanics - A : alkaline, C : calcalkaline |
| Shallow environments with fluctuating salinities | Island arc |

Examples of Mixed Environments

- | | |
|--|---|
| Fluvialite, lacustrine, fluviolacustrine and Hypersaline | Marine carbonate build-ups and ramps and Shallow environments with fluctuating salinities |
|--|---|

LITHOLOGICAL SYMBOLS

- | | |
|--|-------------------------------|
| Shale, clay | Bauxite |
| Sandstone, sand (silt) | Glauconite |
| Conglomerate | Phosphate |
| Breccia | Ironstone (ferruginous) |
| Marl | |
| Limestone | Examples of Mixed Lithologies |
| Nodular limestone | Sandstone and Conglomerate |
| Chalk | Oolitic Limestone |
| Dolomite | Sulphates and Halite |
| Anoxic, organic shale and clay | |
| Banded/laminated chert, silicified limestone (incl. menillites) | |
| Graded beds (incl. turbidites) S : siliclastic V : volcanoclastic C : carbonatic | |
| Oolites | |
| Diatomaceous deposits | |
| Radiolaritic deposits | |
| Lignite, coal (peat) | |
| Sulphates | |
| Halite | |
| Intrusives | |
| Extrusives/volcanics (volcano) | |
| Pyroclastics | |

SPECIAL SYMBOLS

- | |
|----------------------------------|
| Marine incursion |
| Coastal sediment influx |
| Intra-basinal sediment transport |
| Bioherm, reef |
| Deltaic / submarine fan |
| Volcano |
| Mountain range |

REGIONAL DECENTRAL TRENDS

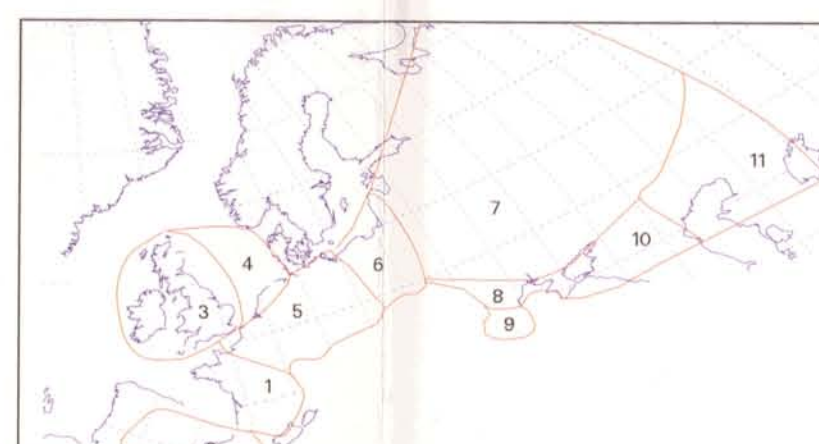
- | |
|--|
| Active extension |
| "Post-rift" passive thermal subsidence |
| Active compression |

TECTONIC SYMBOLS

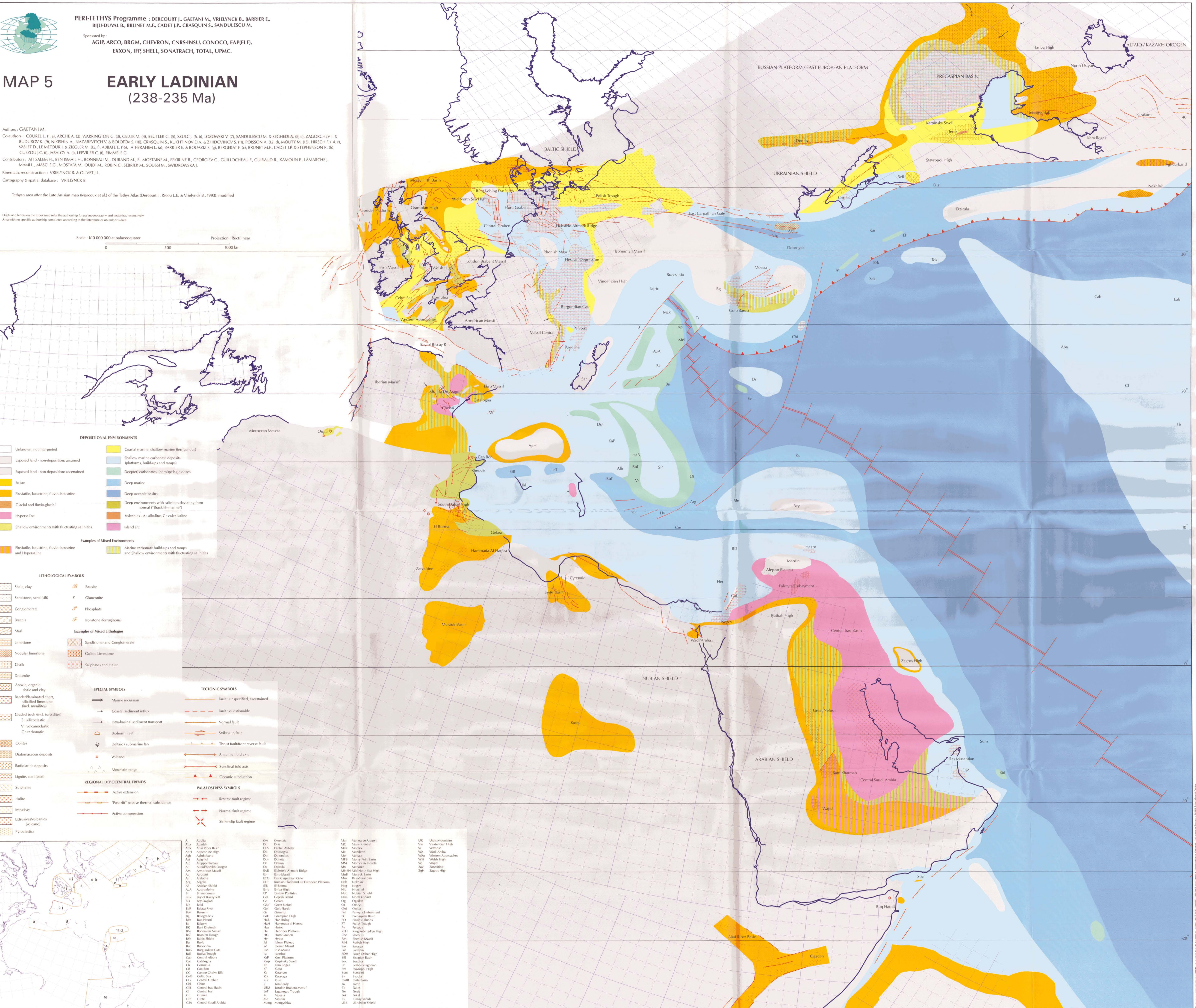
- | |
|----------------------------------|
| Fault : unspecified, ascertained |
| Fault : questionable |
| Normal fault |
| Strike-slip fault |
| Thrust fault/front reverse fault |
| Anticlinal fold axis |
| Synclinal fold axis |
| Oceanic subduction |

PALAEOSTRESS SYMBOLS

- | |
|--------------------------|
| Reverse fault regime |
| Normal fault regime |
| Strike-slip fault regime |



- | | | | |
|------|---|------|----------------------|
| Agh | Aghdarband | LIE | Lithuanian Embayment |
| Ag | Agghiol | M | Morsia |
| AH | Altmark High | Mang | Mangyshlak |
| Alt | Altair/Kazakh Orogen | Mar | Molina de Aragon |
| AM | Armorican Massif | MC | Massif Central |
| BBR | Bay of Biscay Rift | MFB | Moray Firth Basin |
| BeR | Belaya River | MNSH | Mid North Sea High |
| Bg | Belogradsk | Mor | Moravian Gate |
| BM | Bohemian Massif | Mos | Moscow syncline |
| BSh | Baltic Shield | Moz | Mozdok Basin |
| Cat | Catalonia | NUS | North Ustyurt |
| CB | Cornubia | PC | Precaspian Basin |
| CC | Canet-Chelva Rift | Pr | Provence |
| Cel | Celtic Graben | PT | Polish Trough |
| CG | Central Graben | RPH | Ring Kobing Fyn High |
| Chi | Chios | RM | Rhenish Massif |
| CL | Czaplinsk Lods Basins | Sar | Sardinia |
| Cr | Crimea | Siv | Stavropol High |
| Di | Dzi | UKS | Ukrainian Shield |
| Dn | Dniepr | UR | Ural Mountains |
| Do | Dobrogea | Vin | Vindelician High |
| Don | Donetz | VorB | Voronezh High |
| DZ | Dzirula | Vikp | Western Approaches |
| EAP | Russian Platform/East European Platform | WH | Welsh High |
| EES | East European Sedimentary Basin | | |
| Emb | Emba High | | |
| EP | Eastern Pontides | | |
| Gol | Golo Bardo | | |
| Gr | Guerip | | |
| G/H | Grampian High | | |
| Hcm | Holy Cross Mountain | | |
| He | Hebrides Platform | | |
| HD | Hessian Depression | | |
| HG | Horn Graben | | |
| IM | Iberian Massif | | |
| IMM | Irish Massif | | |
| Is | Istanbul | | |
| Karp | Karpinsky Swell | | |
| Kay | Kayasula Basin | | |
| Kb | Kara Bogaz | | |
| Kk | Karakum | | |
| Krk | Karakaya | | |
| Kur | Kure | | |
| LBM | London Brabant Massif | | |





PERI-TETHYS Programme : DERGOURT J., GAETANI M., VRIELYNCK B., BARRIER E.,
BIJU-DUVAL B., BRUNET M.F., CADET J.P., CRASQUIN S., SANDULESCU M.

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MAP 7 LATE SINEMURIAN (193-191 Ma)

Author : THIERRY J.

Co-authors : ABBATE E. (17 a), AITOUALI R. (10), ATESALEM H. (10), BOUAZIZ S. (11 b), CANEROY J. (11), ELMI S. (8, 9, 10, 11), CELIK M. (3), GEORGIEV C. (16), GUIRAUD R. (12, c),
HIRSCH F. (13), IVANIK M. (3), LE METOUR J. (16), LE NINDRE Y.M. (15), MEDINA T. (8), NIKISHIN A.M. (7), PAGE K. (2), PANKOV D.L. (7), PIQUE A. (8, 9), POISSON A. (8, 9, d),
SANDULESCU M. (6, e), SAPUNOV I.G. (6, e), SEGHEDI A. (6), SOUSSI M. (11), TARKOVSKI R.A. (4), TCHOUMATCHENKO P.V. (6, e), VASLET D. (15, 16), VOLOZHA Y.A. (7),
VOZNEZINSKI A. (7), WALLY C.D. (14), ZIEGLER M. (15, 16, f), AIT-BRAHIM J. (6), BARRIER E. (8), BRUNET M.F. (6), BERGERAT F. (6), BRUNET M.F. (6), CADET J.P. (6), GUEZOU J.C. (6),
JABALOTY A. (6), LEPIERRE C. (6), RIMMEL G.

Contributors : BELAID A., BONNEAU M., BOUTAKOUT M., COUTELLE A., FEDAN B., FEKIRINE B., GUILLOCHAU F., JULIEN M., KOKEL E., LAADILA M., LAMARCHE J., MAMI L.,
MANSY J.L., MASLE C., MEISTER C., MOULT M., ROBIN C., SIHAMDI N., SOULHEL A., STEPHENSON R., VERA J.A.

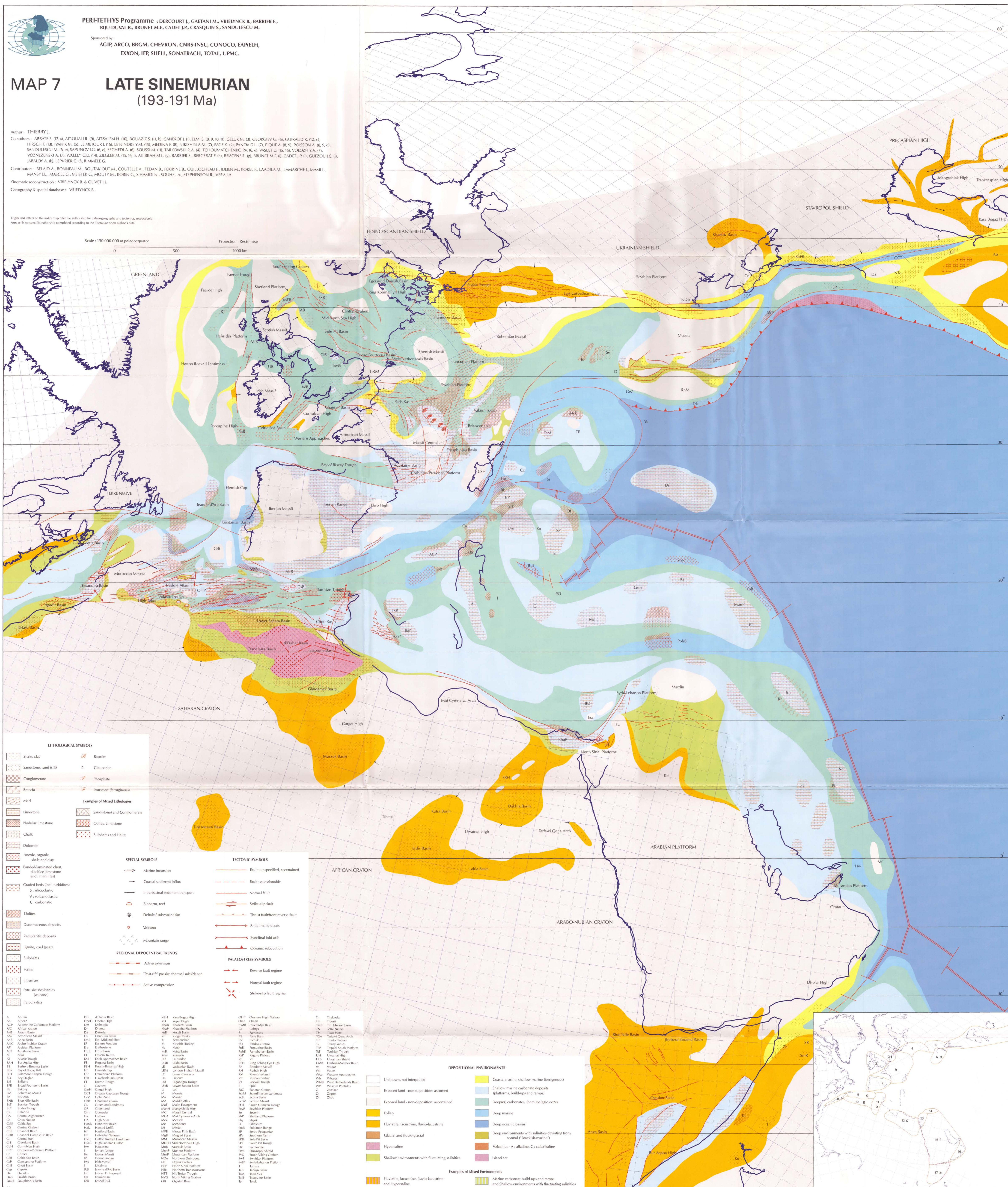
Kinematic reconstruction : VRIELYNCK B. & OLIVET J.L.

Cartography & spatial database : VRIELYNCK B.

Digits and letters on the index map refer the authorship for paleogeography and tectonics, respectively.
Areas with no specific authorship completed according to the literature or an author's data.

Scale : 1/10 000 000 at paleoequator
Projection : Rectilinear

0 500 1000 km



A. Apulia	DB. d'Duval Basin	KBH. Kura Bogaz High	CHP. Chiriqui High	TH. Thukola
AB. Alborz	DH. Dhar High	KD. Khor Dagh	OM. Oman	TIB. Tibet
ACP. Apennine Carbonate Platform	Khu. Khaba	Khu. Khaba	OM. Oman	TMB. Tim Merou Basin
AC. African Craton	Dm. Dalmatia	Khu. Khaba	OM. Oman	TN. Tene
AG. Agadir Basin	Dz. Dzir	Khu. Khaba	OM. Oman	TP. Taza Plate
AM. Arabian Massif	EB. Ebor Basin	Khu. Khaba	OM. Oman	TZA. Taza Plate
AN. Anzou Basin	EBS. East Bosphorus Shelf	Khu. Khaba	OM. Oman	TIP. Taza Plate
AP. Arabian Platform	EP. Eastern Paratethys	Khu. Khaba	OM. Oman	TNS. Taza Plate
AS. Arabian Sea	Ea. Euxine	Khu. Khaba	OM. Oman	TNP. Taza Plate
AT. Atlantic Trough	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
BAH. Bay of Biscay High	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
BB. Bay of Biscay	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
BCT. Bosphorus Canyon Trough	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
BD. Bay of Biscay	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
BE. Bosphorus	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
BFB. Bosphorus Basin	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
BL. Bosphorus	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
BM. Bosphorus Massif	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
BN. Bosphorus	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
BO. Bosphorus	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
BT. Bosphorus	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
BU. Bosphorus	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CA. Calabrian	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CB. Central Bosphorus	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CC. Choc Nappes	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CD. Central Dorsal	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CE. Central Euxine	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CF. Central Fennoscandia	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CG. Central Gabbro	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CH. Channeled Hinge Basin	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CI. Central Iberia	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CJ. Central Japan	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CK. Central Korea	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CL. Central Lorraine	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CM. Central Massif	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CN. Central North Sea	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CO. Central Ocean	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CP. Central Pacific	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CQ. Central Qaidam	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CR. Central Rhenish	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CS. Central Silesia	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CT. Central Tethys	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CU. Central Ural	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CV. Central Volcanics	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CW. Central Wadai	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CX. Central Xizang	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CY. Central Yunnan	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
CZ. Central Zaire	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DA. Dakhla Basin	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DB. Daugava Basin	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DC. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DD. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DE. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DF. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DG. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DH. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DI. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DJ. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DK. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DL. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DM. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DN. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DO. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DP. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DQ. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DR. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DS. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DT. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DU. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DV. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DW. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DX. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DY. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate
DZ. Dnieper	Eu. Euxine	Khu. Khaba	OM. Oman	TNS. Taza Plate

DEPOSITIONAL ENVIRONMENTS

Unknown, not interpreted	Coastal marine, shallow marine (hergionous)
Exposed land - non-deposition: assumed	Shallow marine carbonate deposits (platforms, build-ups and ramps)
Exposed land - non-deposition: ascertained	Deep(er) carbonates, (her)ipelagic oozes
Eolian	Deep marine
Fluvialite, lacustrine, fluviolacustrine	Deep oceanic basins
Glacial and fluvio-glacial	Deep environments with salinities deviating from normal ("blackish-marine")
Hypersaline	Volcanics - A: alkaline, C: calcalkaline
Shallow environments with fluctuating salinities	Island arc
Fluvialite, lacustrine, fluviolacustrine and hypersaline	Examples of Mixed Environments
	Marine carbonate build-ups and ramps and Shallow environments with fluctuating salinities



MAP 8 **MIDDLE TOARCIAN**
(180-178 Ma)

Author: THIERRY J. & BARRIER E.

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Contributors: BELAID A., BONNEAU M., BOUTAKIOU M., CHELLAI E.H., COUTELLE A., FEDAN B., FEKIRINE B., GUILLOCHEAU F., JULIEN M., KOKEL F., LAADILA M., LOTT G.N., LAMARCHE J., MAMI L., MANSY J.L., MASCLE G., MEISTER C., MOUTY M., PASCAL C., ROBIN C., SEBRIER M., SIHAMDI N., SOUHEL A., STEPHENSON R., VERA J.A., VUKS V.

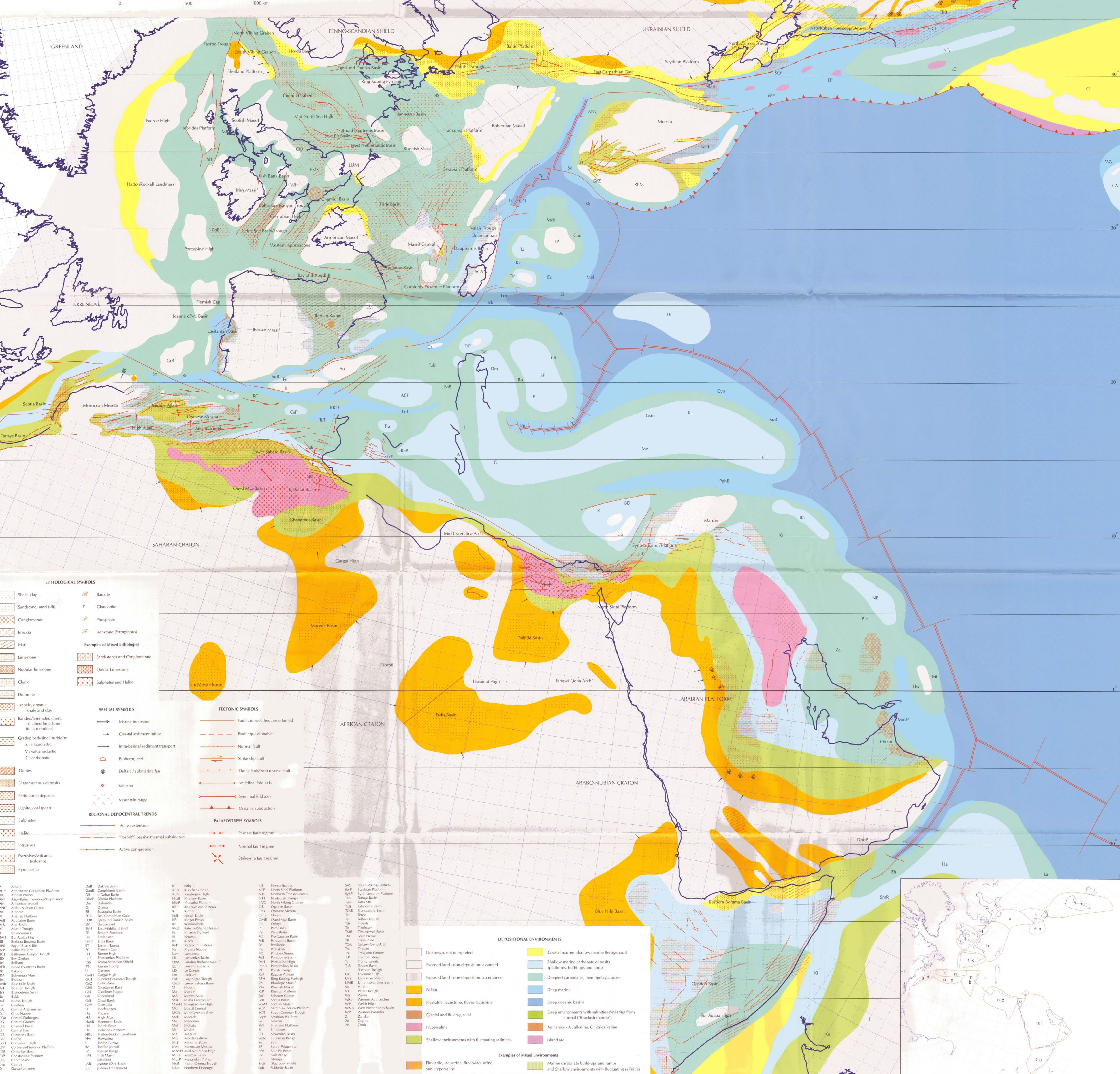
Cartography & spatial database : VRIELYNCK B.

Tethyan area after the Middle Toarcian map (Bassoullet et al.) of the Tethys Atlas (Dercourt J., Ricou L.E. & Vrielynck B., 1993), modified

Digits and letters on the index map refer the authorship for palaeogeography and tectonics, respectively. Area with no specific authorship completed according to the literature or on author's data.

Scale : 1/10 000 000 at palaeoequator

Projection : Rectilinear





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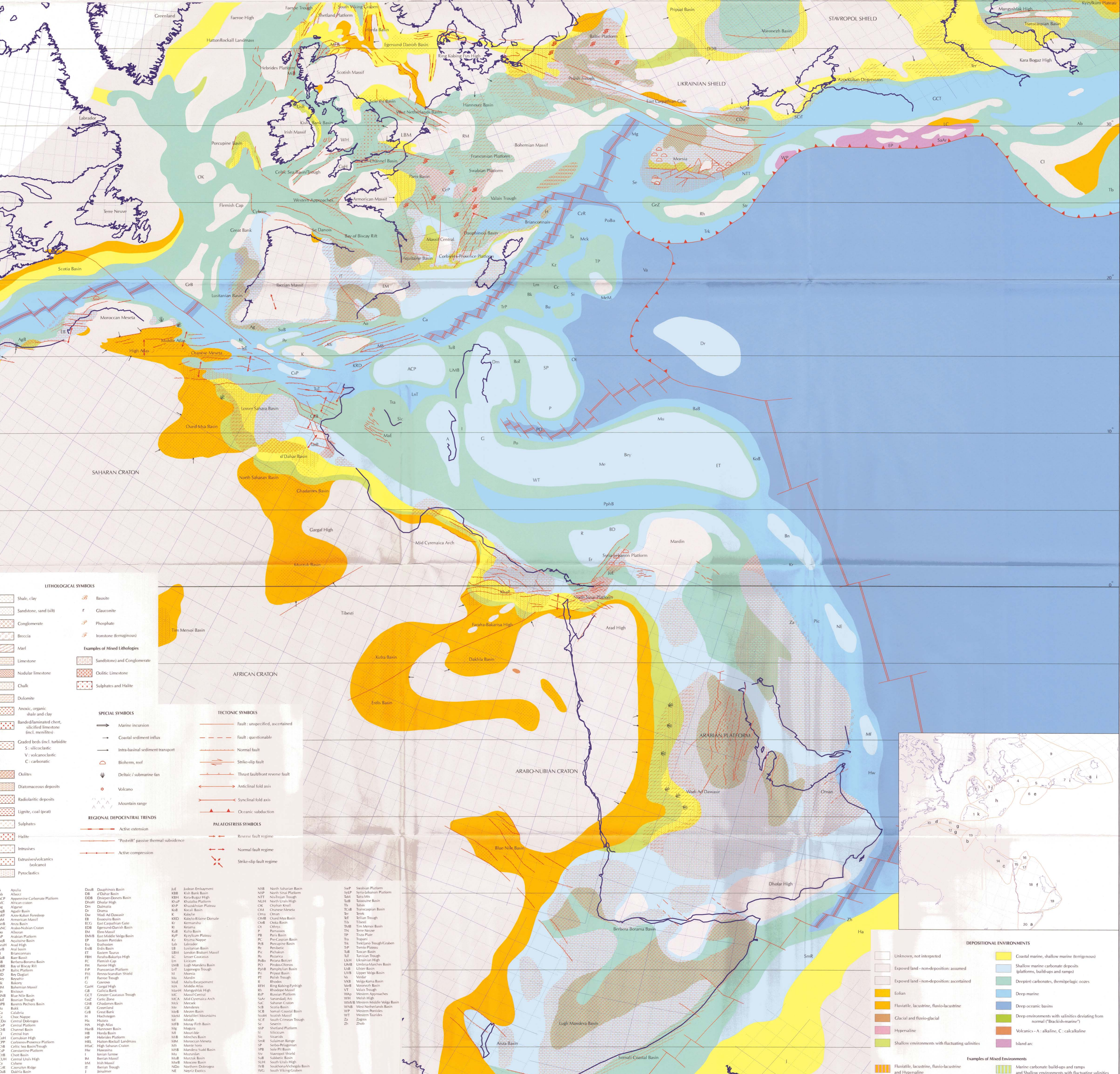
MAP 9 MIDDLE CALLOVIAN (157-155 Ma)

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POISSON A. (10, 11, 12), SANDULESCU M. (6, 16), SAPUNOV I.G. (6, 16), SEGHEI A. (16), SOULSI M. (13), TARKOWSKI R.A. (4), TCHOUATCHENKO P.V. (6, 16), VASLET D. (18, 19),
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ROBIN C., SIHAMDI N., STEPHENSON R., VERA J.A., VUKS V.J.
Kinematic reconstruction : VRIELYNCK B. & OLIVET J.L.
Cartography & spatial database : VRIELYNCK B.

Tethyan area after the Middle Callovian map (Enay et al.) of the Tethys Atlas (Decourt J., Ricou L.E. & Vrielynck B., 1993), modified

Digits and letters on the index map refer the authorship for paleogeography and tectonics, respectively
Area with no specific authorship completed according to the literature or on author's data

Scale : 1/10 000 000 at paleoequator
Projection : Rectilinear





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MAP 10 EARLY KIMMERIDGIAN (146-144 Ma)

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Kinematic reconstruction : VRIEYENCK B. & OLIVET J.L.

Cartography & spatial database : VRIEYENCK B.

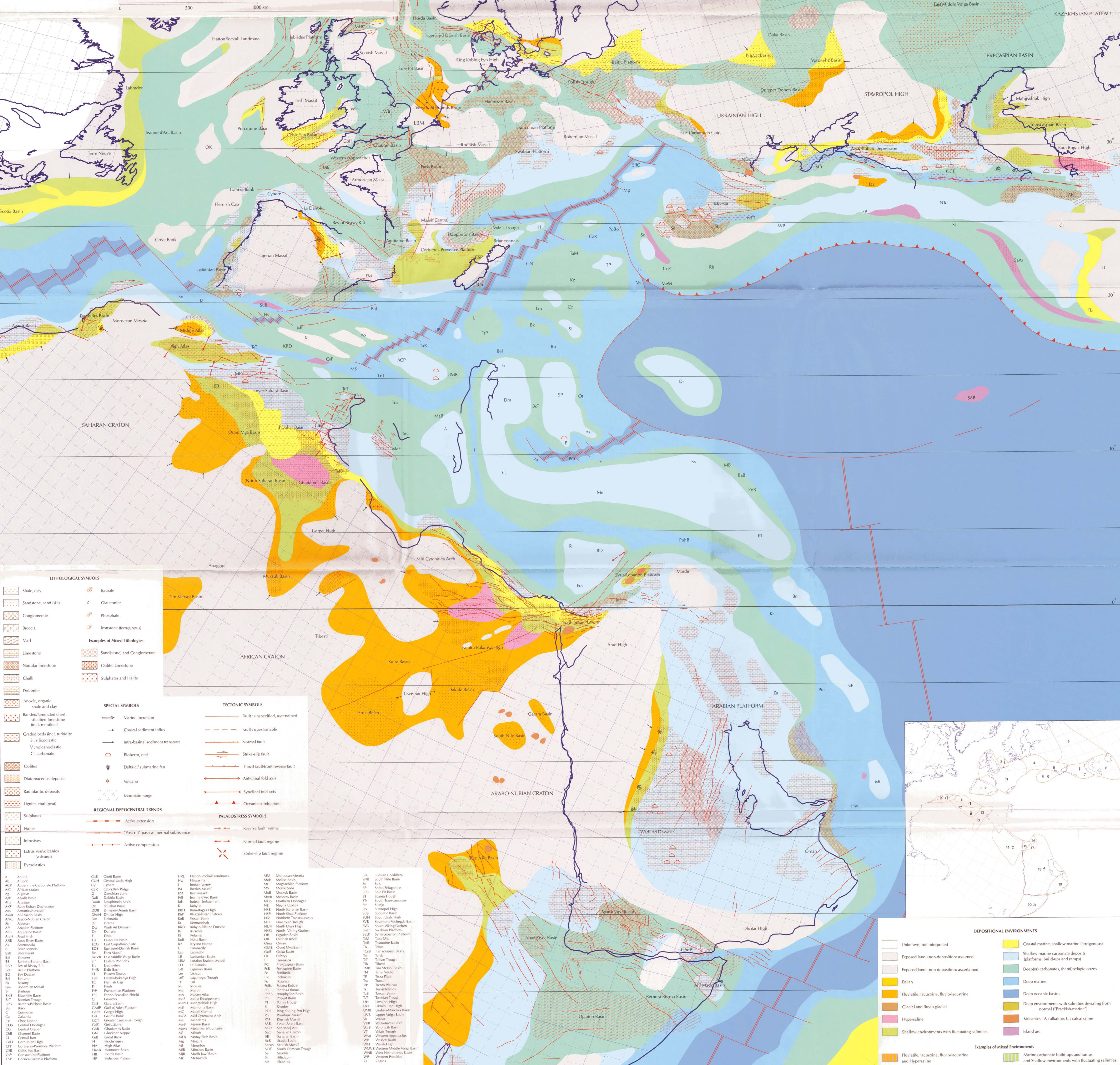
Tethyan area after the Early Kimmeridgian map (Cecca F. et al.) of the Tethys Atlas (Decourt J., Ricou L.E. & Vrieyenck B., 1993), modified

Digits and letters on the index map refer the authorship for palaeogeography and tectonics, respectively

Area with no specific authorship completed according to the literature or on author's data

Scale : 1/10 000 000 at palaeo-equator

Projection : Rectilinear





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MAP 11

EARLY TITHONIAN (141-139 Ma)

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Contributors : BAUDIN F., BELAÏD A., BONNEAU M., COUÛELLE A., FÉKIRINE B., GUILLICHÉAU F., HANTZPERGUE M., HIPPOLYTE J.C., JULIEN M., KOKEL F., LAMARCHE J., MAMI L., MANSY J.L., MASCE G., PASCAL C., ROBIN C., SIHAMDI N., SAINTOT A., STEPHENSON R., VERA J.A., VUKS V.J.

Kinematic reconstruction : VRIELYNCK B. & OLIVET L.

Cartography & spatial database : VRIELYNCK B.

Tethyan area after the Late Tithonian map (Fourcade E. et al.) of the Tethys Atlas (Dercourt J., Ricou L.E. & Vrielynck B., 1993), modified

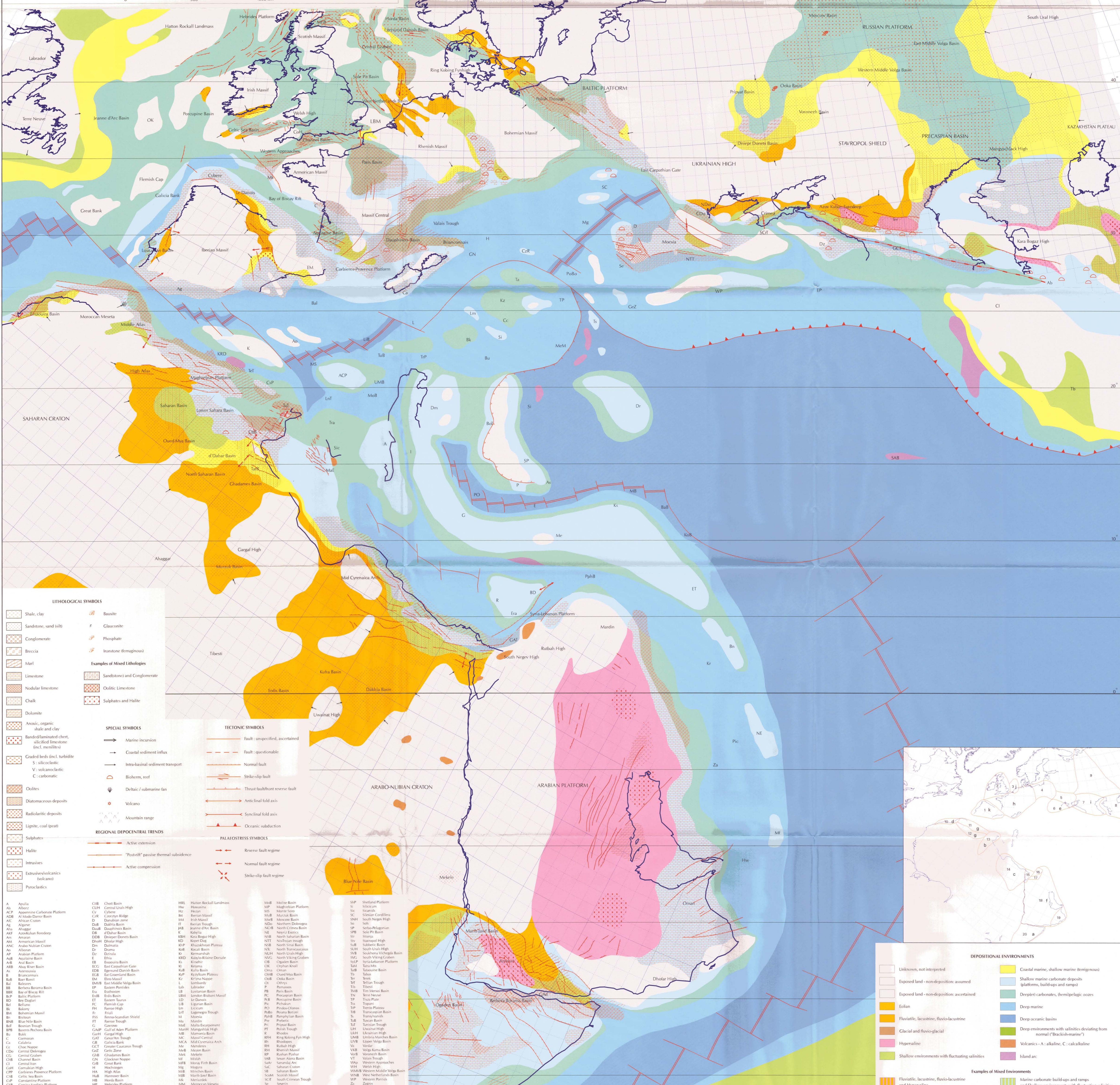
Dips and letters on the index map refer the authorship for paleogeography and tectonics, respectively

Area with no specific authorship completed according to the literature or on author's data

Scale : 1/10 000 000 at paleoequator

Projection : Rectilinear

0 500 1000 km



Al	Apulia	C18	Chert Basin	H81	Hutton Rockall Landmass	M18	Molise Basin	S18	Shortland Platform
Ab	Alber	CLH	Central Ural High	H9	Hawkins	MP	Mugearian Platform	S19	Silicium
ACP	Apennine Carbonate Platform	CLH	Central Ural High	H10	Hawkins	MP	Mugearian Platform	S20	Silicium
ADB	Al-Mado Danian Basin	C19	Chert Basin	H11	Hawkins	MP	Mugearian Platform	S21	Silicium
AD	Adriatic	C20	Chert Basin	H12	Hawkins	MP	Mugearian Platform	S22	Silicium
AE	Algeria	C21	Chert Basin	H13	Hawkins	MP	Mugearian Platform	S23	Silicium
AF	Algeria	C22	Chert Basin	H14	Hawkins	MP	Mugearian Platform	S24	Silicium
AG	Algeria	C23	Chert Basin	H15	Hawkins	MP	Mugearian Platform	S25	Silicium
AH	Algeria	C24	Chert Basin	H16	Hawkins	MP	Mugearian Platform	S26	Silicium
AI	Algeria	C25	Chert Basin	H17	Hawkins	MP	Mugearian Platform	S27	Silicium
AJ	Algeria	C26	Chert Basin	H18	Hawkins	MP	Mugearian Platform	S28	Silicium
AK	Algeria	C27	Chert Basin	H19	Hawkins	MP	Mugearian Platform	S29	Silicium
AL	Algeria	C28	Chert Basin	H20	Hawkins	MP	Mugearian Platform	S30	Silicium
AM	American Massif	C29	Chert Basin	H21	Hawkins	MP	Mugearian Platform	S31	Silicium
AN	Andean-Nubian Craton	C30	Chert Basin	H22	Hawkins	MP	Mugearian Platform	S32	Silicium
AO	Algarve	C31	Chert Basin	H23	Hawkins	MP	Mugearian Platform	S33	Silicium
AP	Apennine Platform	C32	Chert Basin	H24	Hawkins	MP	Mugearian Platform	S34	Silicium
AQ	Algeria	C33	Chert Basin	H25	Hawkins	MP	Mugearian Platform	S35	Silicium
AR	Algeria	C34	Chert Basin	H26	Hawkins	MP	Mugearian Platform	S36	Silicium
AS	Algeria	C35	Chert Basin	H27	Hawkins	MP	Mugearian Platform	S37	Silicium
AT	Algeria	C36	Chert Basin	H28	Hawkins	MP	Mugearian Platform	S38	Silicium
AV	Algeria	C37	Chert Basin	H29	Hawkins	MP	Mugearian Platform	S39	Silicium
AW	Algeria	C38	Chert Basin	H30	Hawkins	MP	Mugearian Platform	S40	Silicium
AX	Algeria	C39	Chert Basin	H31	Hawkins	MP	Mugearian Platform	S41	Silicium
AY	Algeria	C40	Chert Basin	H32	Hawkins	MP	Mugearian Platform	S42	Silicium
AZ	Algeria	C41	Chert Basin	H33	Hawkins	MP	Mugearian Platform	S43	Silicium
BA	Bahamas Massif	C42	Chert Basin	H34	Hawkins	MP	Mugearian Platform	S44	Silicium
BB	Bahamas	C43	Chert Basin	H35	Hawkins	MP	Mugearian Platform	S45	Silicium
BC	Blue Nile Basin	C44	Chert Basin	H36	Hawkins	MP	Mugearian Platform	S46	Silicium
BD	Bahamas	C45	Chert Basin	H37	Hawkins	MP	Mugearian Platform	S47	Silicium
BE	Bahamas	C46	Chert Basin	H38	Hawkins	MP	Mugearian Platform	S48	Silicium
BF	Bahamas	C47	Chert Basin	H39	Hawkins	MP	Mugearian Platform	S49	Silicium
BG	Bahamas	C48	Chert Basin	H40	Hawkins	MP	Mugearian Platform	S50	Silicium
BH	Bahamas	C49	Chert Basin	H41	Hawkins	MP	Mugearian Platform	S51	Silicium
BI	Bahamas	C50	Chert Basin	H42	Hawkins	MP	Mugearian Platform	S52	Silicium
BJ	Bahamas	C51	Chert Basin	H43	Hawkins	MP	Mugearian Platform	S53	Silicium
BK	Bahamas	C52	Chert Basin	H44	Hawkins	MP	Mugearian Platform	S54	Silicium
BL	Bahamas	C53	Chert Basin	H45	Hawkins	MP	Mugearian Platform	S55	Silicium
BM	Bahamas	C54	Chert Basin	H46	Hawkins	MP	Mugearian Platform	S56	Silicium
BN	Bahamas	C55	Chert Basin	H47	Hawkins	MP	Mugearian Platform	S57	Silicium
BO	Bahamas	C56	Chert Basin	H48	Hawkins	MP	Mugearian Platform	S58	Silicium
BP	Bahamas	C57	Chert Basin	H49	Hawkins	MP	Mugearian Platform	S59	Silicium
BQ	Bahamas	C58	Chert Basin	H50	Hawkins	MP	Mugearian Platform	S60	Silicium
BR	Bahamas	C59	Chert Basin	H51	Hawkins	MP	Mugearian Platform	S61	Silicium
BS	Bahamas	C60	Chert Basin	H52	Hawkins	MP	Mugearian Platform	S62	Silicium
BT	Bahamas	C61	Chert Basin	H53	Hawkins	MP	Mugearian Platform	S63	Silicium
BU	Bahamas	C62	Chert Basin	H54	Hawkins	MP	Mugearian Platform	S64	Silicium
BV	Bahamas	C63	Chert Basin	H55	Hawkins	MP	Mugearian Platform	S65	Silicium
BW	Bahamas	C64	Chert Basin	H56	Hawkins	MP	Mugearian Platform	S66	Silicium
BX	Bahamas	C65	Chert Basin	H57	Hawkins	MP	Mugearian Platform	S67	Silicium
BY	Bahamas	C66	Chert Basin	H58	Hawkins	MP	Mugearian Platform	S68	Silicium
BZ	Bahamas	C67	Chert Basin	H59	Hawkins	MP	Mugearian Platform	S69	Silicium
CA	Caribbean	C68	Chert Basin	H60	Hawkins	MP	Mugearian Platform	S70	Silicium
CB	Caribbean	C69	Chert Basin	H61	Hawkins	MP	Mugearian Platform	S71	Silicium
CC	Caribbean	C70	Chert Basin	H62	Hawkins	MP	Mugearian Platform	S72	Silicium
CD	Caribbean	C71	Chert Basin	H63	Hawkins	MP	Mugearian Platform	S73	Silicium
CE	Caribbean	C72	Chert Basin	H64	Hawkins	MP	Mugearian Platform	S74	Silicium
CF	Caribbean	C73	Chert Basin	H65	Hawkins	MP	Mugearian Platform	S75	Silicium
CG	Caribbean	C74	Chert Basin	H66	Hawkins	MP	Mugearian Platform	S76	Silicium
CH	Caribbean	C75	Chert Basin	H67	Hawkins	MP	Mugearian Platform	S77	Silicium
CI	Caribbean	C76	Chert Basin	H68	Hawkins	MP	Mugearian Platform	S78	Silicium
CJ	Caribbean	C77	Chert Basin	H69	Hawkins	MP	Mugearian Platform	S79	Silicium
CK	Caribbean	C78	Chert Basin	H70	Hawkins	MP	Mugearian Platform	S80	Silicium
CL	Caribbean	C79	Chert Basin	H71	Hawkins	MP	Mugearian Platform	S81	Silicium
CM	Caribbean	C80	Chert Basin	H72	Hawkins	MP	Mugearian Platform	S82	Silicium
CN	Caribbean	C81	Chert Basin	H73	Hawkins	MP	Mugearian Platform	S83	Silicium
CO	Caribbean	C82	Chert Basin	H74	Hawkins	MP	Mugearian Platform	S84	Silicium
CP	Caribbean	C83	Chert Basin	H75	Hawkins	MP	Mugearian Platform	S85	Silicium
CQ	Caribbean	C84	Chert Basin	H76	Hawkins	MP	Mugearian Platform	S86	Silicium
CR	Caribbean	C85	Chert Basin	H77	Hawkins	MP	Mugearian Platform	S87	Silicium
CS	Caribbean	C86	Chert Basin	H78	Hawkins	MP	Mugearian Platform	S88	Silicium
CT	Caribbean	C87	Chert Basin	H79	Hawkins	MP	Mugearian Platform	S89	Silicium
CU	Caribbean	C88	Chert Basin	H80	Hawkins	MP	Mugearian Platform	S90	Silicium
CV	Caribbean	C89	Chert Basin	H81	Hawkins	MP	Mugearian Platform	S91	Silicium
CW	Caribbean	C90	Chert Basin	H82	Hawkins	MP	Mugearian Platform	S92	Silicium
CX	Caribbean	C91	Chert Basin	H83	Hawkins	MP	Mugearian Platform	S93	Silicium
CY	Caribbean	C92	Chert Basin	H84	Hawkins	MP	Mugearian Platform	S94	Silicium
CZ	Caribbean	C93	Chert Basin	H85	Hawkins	MP	Mugearian Platform	S95	Silicium
DA	Danubian	C94	Chert Basin	H86	Hawkins	MP	Mugearian Platform	S96	Silicium
DB	Danubian	C95	Chert Basin	H87	Hawkins	MP	Mugearian Platform	S97	Silicium
DC	Danubian	C96	Chert Basin	H88	Hawkins	MP	Mugearian Platform	S98	Silicium
DD	Danubian	C97	Chert Basin	H89	Hawkins	MP	Mugearian Platform	S99	Silicium
DE	Danubian	C98	Chert Basin	H90	Hawkins	MP	Mugearian Platform	S100	Silicium
DF	Danubian	C99	Chert Basin	H91	Hawkins	MP	Mugearian Platform	S101	Silicium
DG	Danubian	C100	Chert Basin	H92	Hawkins	MP	Mugearian Platform	S102	Silicium
DH	Danubian	C101	Chert Basin	H93	Hawkins	MP	Mugearian Platform	S103	Silicium
DI	Danubian	C102	Chert Basin	H94	Hawkins	MP	Mugearian Platform	S104	Silicium
DJ	Danubian	C103	Chert Basin	H95	Hawkins	MP	Mugearian Platform	S105	Silicium
DK	Danubian	C104	Chert Basin	H96	Hawkins	MP	Mugearian Platform	S106	Silicium
DL	Danubian	C105	Chert Basin	H97	Hawkins	MP	Mugearian Platform	S107	Silicium
DM	Danubian	C106	Chert Basin	H98	Hawkins	MP	Mugearian Platform	S108	Silicium
DN	Danubian	C107	Chert Basin	H99	Hawkins	MP	Mugearian Platform	S109	Silicium
DO	Danubian	C108	Chert Basin	H100	Hawkins	MP	Mugearian Platform	S110	Silicium
DP	Danubian	C109	Chert Basin	H101	Hawkins	MP	Mugearian Platform	S111	Silicium
DQ	Danubian	C110	Chert Basin	H102	Hawkins	MP	Mugearian Platform	S112	Silicium
DR	Danubian	C111	Chert Basin	H103	Hawkins	MP	Mugearian Platform	S113	Silicium
DS	Danubian	C112	Chert Basin	H104	Hawkins	MP	Mugearian Platform	S114	Silicium
DT	Danubian	C113	Chert Basin	H105	Hawkins	MP	Mugearian Platform	S115	Silicium
DU	Danubian	C114	Chert Basin	H106	Hawkins	MP	Mugearian Platform	S116	Silicium
DV	Danubian	C115	Chert Basin	H107	Hawkins	MP	Mugearian Platform	S117	Silicium
DW	Danubian	C116	Chert Basin	H108	Hawkins	MP	Mugearian Platform	S118	Silicium
DX	Danubian	C117	Chert Basin	H109	Hawkins	MP	Mugearian Platform	S119	Silicium
DY	Danubian	C118	Chert Basin	H110	Hawkins	MP	Mugearian Platform	S120	Silicium
DZ	Danubian	C119	Chert Basin	H111	Hawkins	MP	Mugearian Platform	S121	Silicium
EA	Danubian	C120	Chert Basin	H112	Hawkins	MP	Mugearian Platform	S122	Silicium
EB	Danubian	C121	Chert Basin	H113	Hawkins	MP	Mugearian Platform	S123	Silicium
EC	Danubian	C122	Chert Basin	H114	Hawkins	MP	Mugearian Platform	S124	Silicium
ED	Danubian	C123	Chert Basin	H115	Hawkins	MP	Mugearian Platform	S125	Silicium
EE	Danubian	C124	Chert Basin	H116	Hawkins	MP	Mugearian Platform	S126	Silicium
EF	Danubian	C125	Chert Basin	H117	Hawkins	MP	Mugearian Platform	S127	Silicium
EG	Danubian	C126	Chert Basin	H118	Hawkins	MP	Mugearian Platform	S128	Silicium
EH	Danubian	C127	Chert Basin	H119	Hawkins	MP	Mugearian Platform	S129	Silicium
EI	Danubian	C128	Chert Basin	H120	Hawkins	MP	Mugearian Platform	S130	Silicium
EJ	Danubian	C129	Chert Basin	H121	Hawkins	MP	Mugearian Platform	S131	Silicium
EK	Danubian	C130	Chert Basin	H122	Hawkins	MP	Mugearian Platform	S132	Silicium
EL	Danubian	C131	Chert Basin	H123	Hawkins	MP	Mugearian Platform	S133	Silicium
EM	Danubian	C132	Chert Basin	H124	Hawkins	MP	Mugearian Platform	S134	Silicium
EN	Danubian	C133	Chert Basin	H125	Hawkins	MP	Mugearian Platform	S135	Silicium
EO	Danubian	C134	Chert Basin	H126	Hawkins	MP	Mugearian Platform	S136	Silicium
EP	Danubian	C135	Chert Basin	H127	Hawkins	MP	Mugearian Platform	S137	Silicium
EQ	Danubian	C136	Chert Basin	H128	Hawkins	MP	Mugearian Platform	S138	Silicium
ER	Danubian	C137	Chert Basin	H129	Hawkins	MP	Mugearian Platform	S139	Silicium
ES	Danubian	C138	Chert Basin	H130	Hawkins	MP	Mugearian Platform	S140	Silicium
ET	Danubian	C139	Chert Basin	H131	Hawkins	MP	Mugearian Platform	S141	Silicium
EU	Danubian	C140	Chert Basin	H132	Hawkins	MP	Mugearian Platform	S142	Silicium
EV	Danubian	C141	Chert Basin	H133	Hawkins	MP	Mugearian Platform	S143	Silicium
EW	Danubian	C142	Chert Basin	H134	Hawkins	MP	Mugearian Platform	S144	Silicium
EX	Danubian	C143	Chert Basin	H135	Hawkins	MP	Mugearian Platform	S145	Silicium
EY	Danubian	C144	Chert Basin	H136	Hawkins	MP	Mugearian Platform	S146	Silicium
EZ	Danubian	C145	Chert Basin	H137	Hawkins	MP	Mugearian Platform	S147	Silicium
FA	Danubian	C146	Chert Basin	H138	Hawkins	MP	Mugearian Platform	S148	Silicium
FB	Danubian	C147	Chert Basin	H139	Hawkins	MP	Mugearian Platform	S149	Silicium
FC	Danubian	C148	Chert Basin	H140	Hawkins	MP	Mugearian Platform	S150	Silicium
FD	Danubian	C149	Chert Basin	H141	Hawkins	MP	Mugearian Platform	S151	Silicium
FE	Danubian	C150	Chert Basin	H142	Hawkins	MP	Mugearian Platform	S152	Silicium
FF	Danubian	C151	Chert Basin	H143	Hawkins	MP	Mugearian Platform	S153	Silicium
FG	Danubian	C152	Chert Basin	H144	Hawkins	MP	Mugearian Platform	S154	Silicium
FH	Danubian	C153	Chert Basin	H145	Hawkins	MP	Mugearian Platform	S155	Silicium
FI	Danubian	C154	Chert Basin	H146	Hawkins	MP	Mugearian Platform	S156	Silicium
FJ	Danubian	C155	Chert Basin	H147	Hawkins	MP	Mugearian Platform	S157	Silicium
FK	Danubian	C156	Chert Basin	H148	Hawkins	MP	Mugearian Platform	S158	Silicium
FL	Danubian	C157	Chert Basin	H149	Hawkins	MP	Mugearian Platform	S159	Silicium
FM	Danubian	C158	Chert Basin	H150	Hawkins	MP	Mugearian Platform	S160	Silicium
FN	Danubian	C159	Chert Basin	H151	Hawkins	MP	Mugearian Platform	S161	Silicium
FO	Danubian	C160	Chert Basin	H152	Hawkins	MP	Mugearian Platform	S162	Silicium
FP	Danubian	C161	Chert Basin	H153	Hawkins	MP	Mugearian Platform	S163	Silicium
FQ	Danubian	C162	Chert Basin	H154	Hawkins	MP	Mugearian Platform	S164	Silicium
FR	Danubian	C163	Chert Basin	H155	Hawkins	MP	Mugearian Platform	S165	Silicium
FS	Danubian	C164	Chert Basin	H156	Hawkins	MP	Mugearian Platform	S166	Silicium
FT	Danubian	C165	Chert Basin	H157	Hawkins	MP	Mugearian Platform	S167	Silicium
FU	Danubian	C166	Chert Basin	H158	Hawkins	MP	Mugearian Platform	S168	Silicium
FV	Danubian	C167	Chert Basin	H159	Hawkins	MP	Mugearian Platform	S169	Silicium
FW	Danubian	C168	Chert Basin	H160	Hawkins	MP	Mugearian Platform	S170	Silicium
FX	Danubian	C169	Chert Basin	H161	Hawkins	MP	Mugearian Platform	S171	Silicium
FY	Danubian	C170	Chert Basin	H162	Hawkins	MP	Mugearian Platform	S172	Silicium
FZ	Danubian	C171	Chert Basin	H163	Hawkins	MP	Mugearian Platform	S173	Silicium
GA	Gabon	C172	Chert Basin	H164	Hawkins	MP	Mugearian Platform	S174	Silicium
GB	Gabon	C173	Chert Basin	H165	Hawkins	MP	Mugearian Platform	S175	Silicium
GC	Gabon	C174	Chert Basin	H166					



AGIP, ARCO, BRGM, CHEVRON, CNRS-INSU, CONOCO, EAP(ELF),
EXXON, IFP, SHELL, SONATRACH, TOTAL, UPMC.

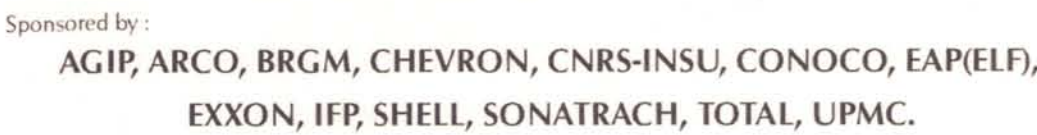
Author: BUIJOT L.G.
Co-authors: AMON E. (1), BERGERAT F. (2), BARABOSHIN E.J. (3), GUIRAUD R. (4), HIRSH F. (5), PLATEL J.P. (6), POISSON A. (7), SANDULESCU M. (8), ZIEGLER M., VASLET D. (9), BOUAJIZ S. (10), RIMMELE J.
Contributors: AIT OUALI R., CANEROT J., GA'RYLYSHYN V., GEORGIEV A., JABALOU A., MEMMI L., NANIK M., NIKSHIN A., PLOTNIKOVA L., REY J., ROMANIV A., TARKOWSKI R.
Kinematic reconstruction : VRIEYNCK B.
Cartography & spatial database : VRIEYNCK B.

Digits and letters on the index map refer the authorship for palaeogeography and tectonics, respectively. Area with no specific authorship completed according to the literature or on author's data.

Scale : 1/10 000 000 at palaeoequator Projection : Rectilinear

0 500 1000 km





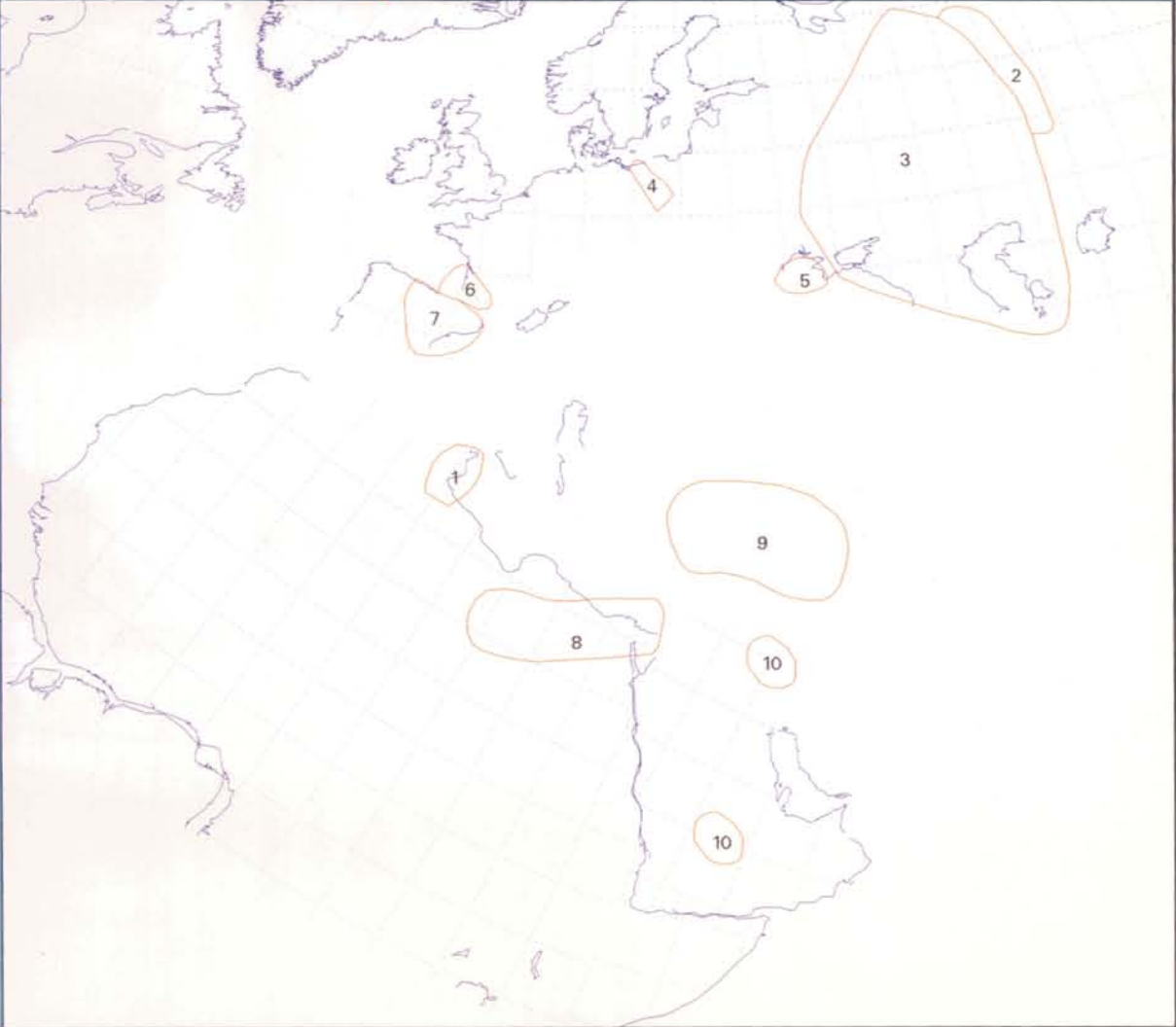
Authors: MASSE J.P.
 Co-authors: BOUAZZIS S. (1), AMON E.O. (2), BARABOSHKIN E. (3), TARKOWSKI R., BERGERAT F. (4), SANDULESCU M. (5), PLATEL J.P. (6), CANEROIT J. (7), GUIRAUD R. (8), POISSON A. (9), ZIEGLER M. (10), RIMMELE G.
 Contributors: CHARRAT F., FAURE-MURET A., IVANIK M., JABALOY A., LAMACHE J., LE NINDRE Y., LEWY Z., NIKISHIN A.M., PLOTNIKOVA L., VASLET D.
 Kinematic reconstruction: VRIELYNCK B.
 Cartography & spatial database: VRIELYNCK B.

Tethyan area after the Early Aptian map (Masse J.P. et al.) of the Tethys Atlas (Dercourt J., Ricou L.E. & Vrielynck B., 1993), modified

Digits and letters on the index map refer the authorship for palaeogeography and tectonics, respectively. Area with no specific authorship completed according to the literature or on author's data.

Scale : 1/10 000 000 at palaeoequator Projection : Rectilinear

0 500 1000 km





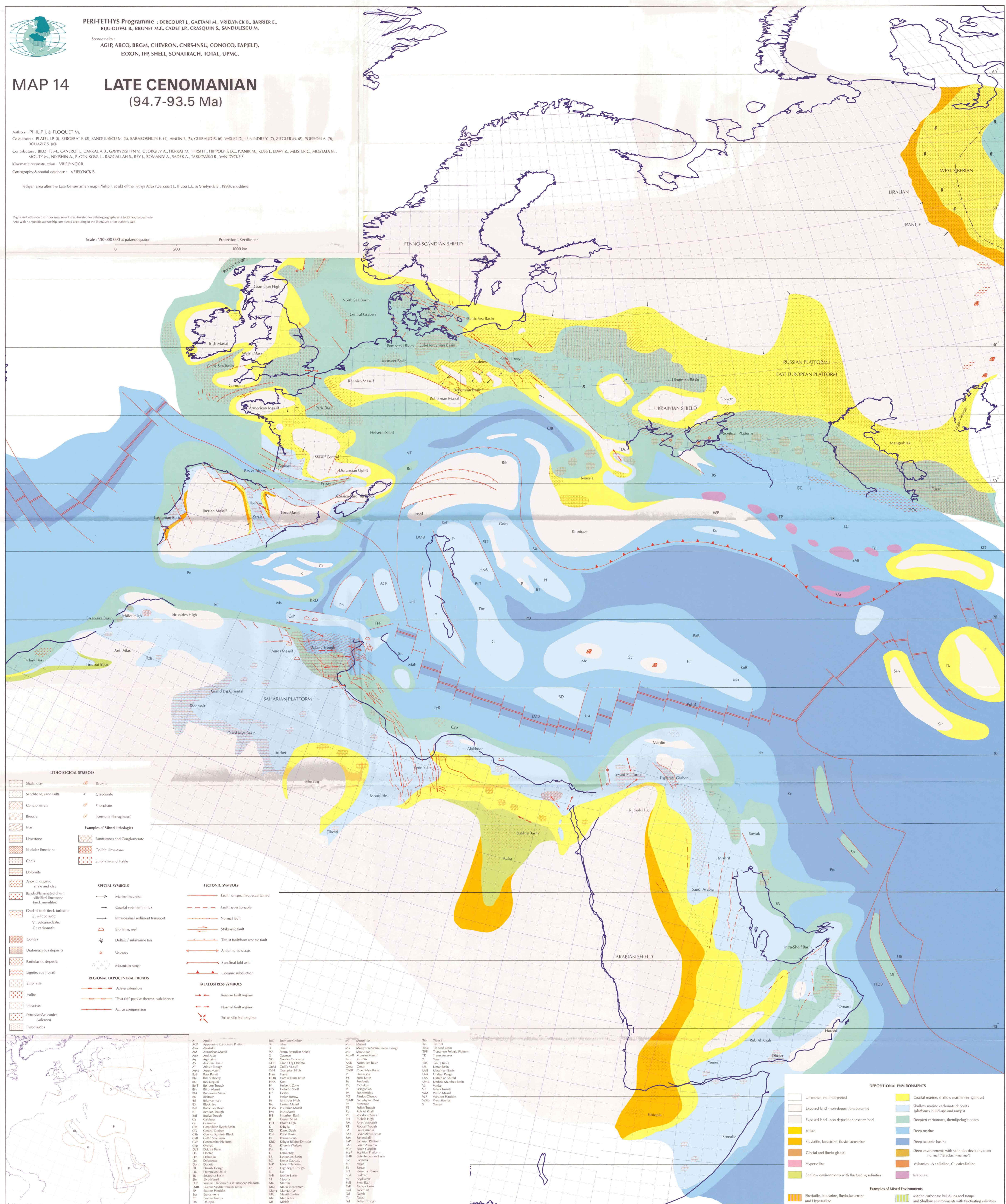
Sponsored by :
AGIP, ARCO, BRGM, CHEVRON, CNRS-INSU, CONOCO, EAP(ELF),
EXXON, IFP, SHELL, SONATRACH, TOTAL, UPMC.

Authors: PHILIP J. & FLOQUET M.
Co-authors: PLATEL J.P. (1), BERGERAT F. (2), SANDULESCU M. (3), BARABOSHKIN E. (4), AMON E. (5), GUIRAUD R. (6), VASLET D., LE NINDREY F. (7), ZIEGLER M. (8), POISSON A. (9), BOUTAZZES S. (10).
Contributors: BILOTE M., CANOT R. I., DARKAL A. B., GA/RUYSHYNN V., GEORGIEV A., HERKAT M., HIRSH F., HIPPOYTE J.C., IVANIK M., KUSS J., LEWY Z., MEISTER C., MOSTAFA M., MOUTY M., NIKSHIN A., PANERIOVA L., RAZGALLAH S., REY J., ROMANIAN A., SADEK A., TARKOWSKI R., VAN DYCKE S.
Kinematic reconstruction: VRIELYNCK B.
Cartography & spatial database: VRIELYNCK B.

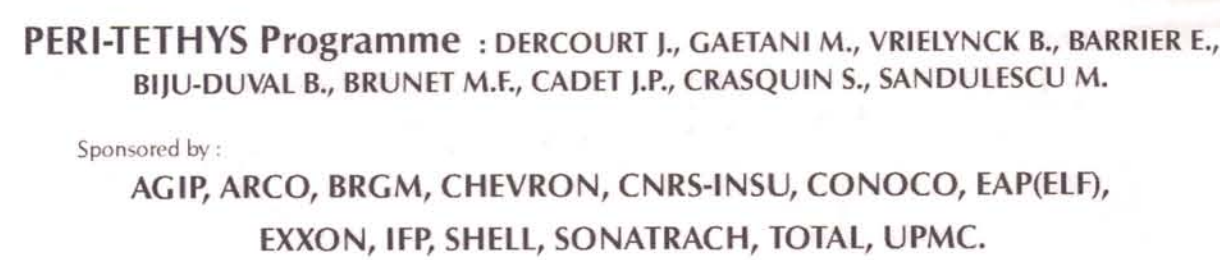
Tethyan area after the Late Cenomanian map (Philip J. et al.) of the Tethys Atlas (Dercourt J., Ricou L.E. & Vrielynck B., 1993), modified

Digits and letters on the index map refer the authorship for palaeogeography and tectonics, respectively. Area with no specific authorship completed according to the literature or on author's data.

Scale: 1/10 000 000 at palaeoequator Projection: Rectilinear



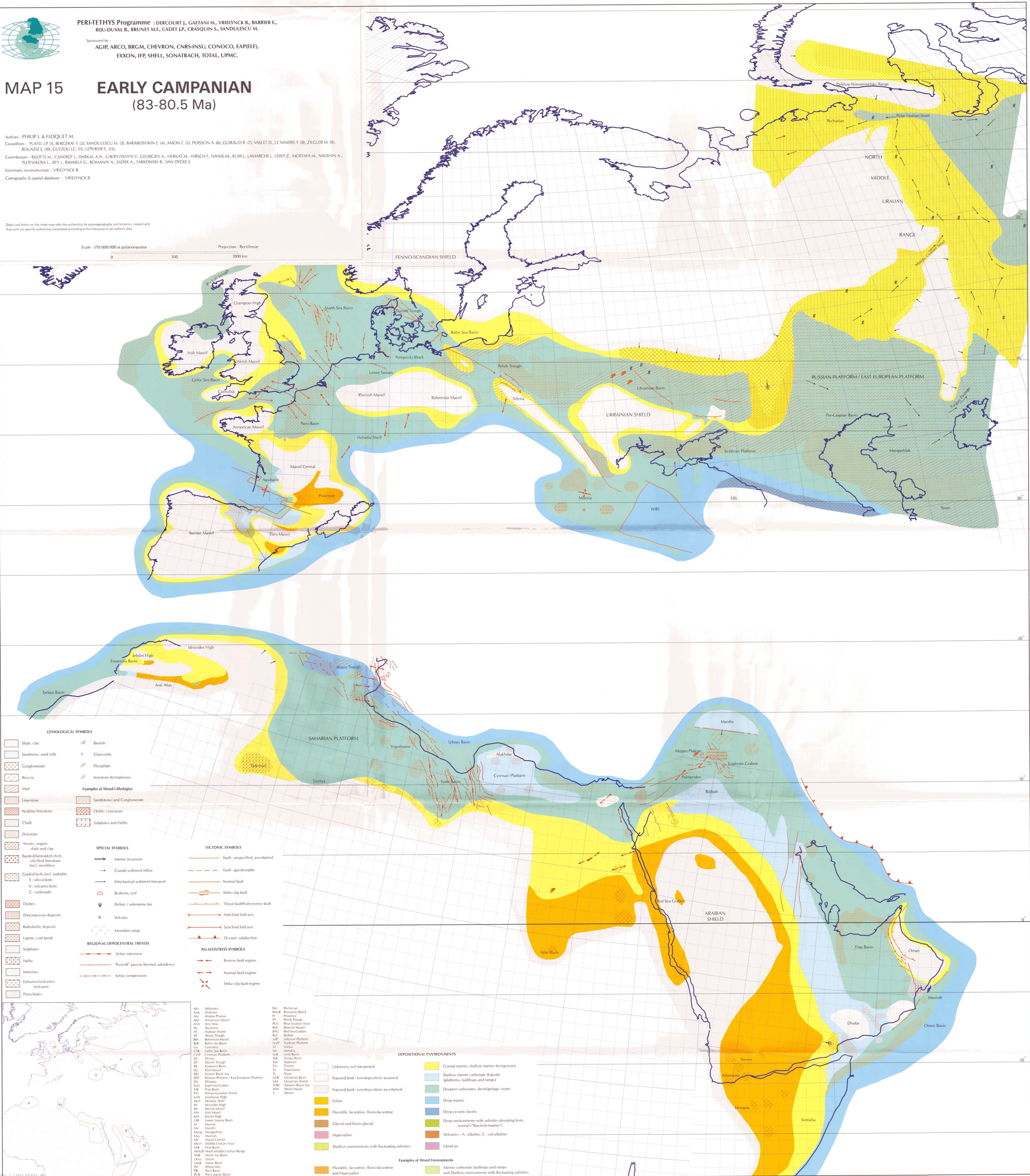
<http://jurassic.ru>



Authors: PHILIP J. & FLOQUET M.
Co-authors: PLATEL I.P. (1), BERGERAT F. (2), SANDULESCU M. (3), BARABOSHKIN E. (4), AMON E. (5), POISSON A. (6), GUIRAUD R. (7), VASLET D., LE NINDREY Y. (8), ZIEGLER M. (9), BOUAZZIS S. (10), GUEZOU I.C. (11), LEPIERRE C. (12).
Contributors: BILLOTTE M., CANEROT I., DARKAL A.N., GAWRYLYSHYN V., GEORGIEVA A., HERIKAT M., HIRSCH F., IVANIK M., KLUSS J., LAMACHE J., LEVY Z., MOSTAFA M., NIKSHIN A., PLOTNIKOVA L., REY J., RINMELE G., ROMANOV A., SADEK A., TARKOWSKI R., VAN DYCKE S.
Kinematic reconstruction: VRIEJENCK B.
Cartography & spatial database: VRIEJENCK B.

Digits and letters on the index map refer the authorship for palaeogeography and tectonics, respectively. Area with no specific authorship completed according to the literature or on author's data.

Scale : 1/10 000 000 at palaeoequator Projection : Rectilinear



MAP 17 **EARLY/MIDDLE YPRESIAN**
(55-51 Ma)

Authors: MEULENKAMP J.E., SISSINGH W., BENIAMOVSKII V.N.

Co-authors : ABBATE E. (8), ABDEL-GAWAD S. (10), ANDREYEVA-GRIGOROVICH A.S. (5), BEN-ISMAIL K. (12), BOUAJIZ S. (11, 12, c), CAHUZAC B. (2), CALVO J.P. (1), DAAMS R. (1), GEORGIEV G. (4), HIRSCH F. (9), LONDEIX L. (2), PLATEL J.P. (7), ROGER J. (7), SADEK A. (10), SAGRI M. (8), SCHERBA I.G. (6), STUĐENČKA B. (3), ZAGHBI-BTURKI D. (12)

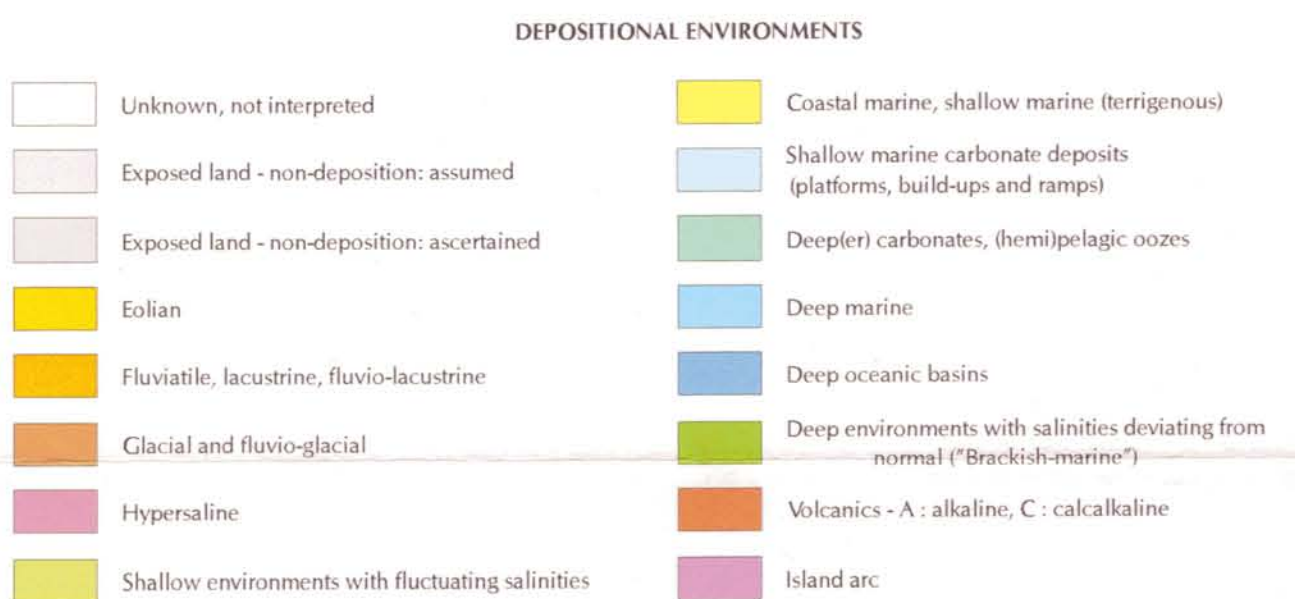
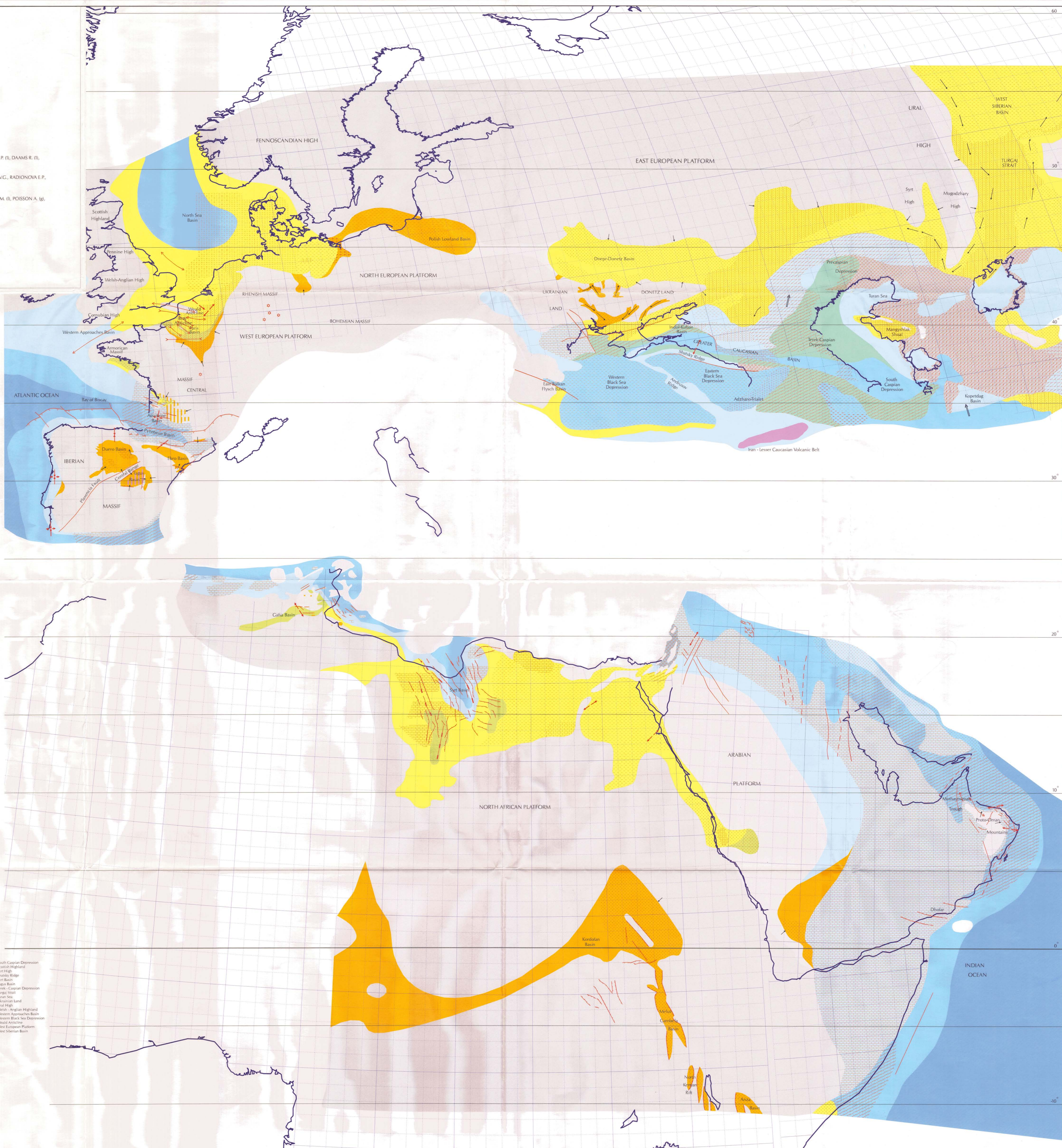
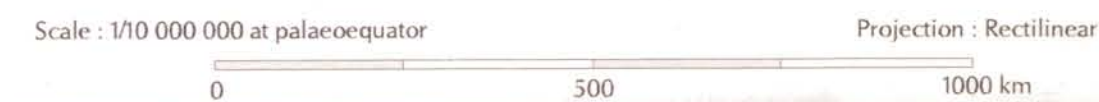
Contributors: ABBES C., BERGER J.P., BOHM M., CAVELIER C., LUGT I.R. de, KAROUÏ N., KHOKHLOVA I., KOPP M.L., LAGA P., NAGYMAROSY A., PRONIN V.G., RADJIONOVA E.P., SOUSSI M., VASLET D., WONG T., YAICH C., ZAIRI A., ZHELEZKO V.I., ZOSIMOVICH V., ZOUARI H.
Co-authors for additional tectonic data: BARRIER E., BRUNET M.F., CADET J.P., JABALOY A.

Co-authors for additional tectonic data : BARRIER E., BRUNET M.F., CADET J.P., JABALOY A.

Contributors for additional tectonic data: ANGELIER J. (a), DARKAL A.N. (f), GUEZOU J.C. (g), GUILLICHAU F. (h), JABALOY A. (j), LEPRVIER C. (i), MOSTAFA M. (l), POISSON A. (g), RIMMELE G., ROCHER M. (a), SAINTÔT A. (a), VANDYCKE S. (m)

Kinematic reconstruction : VRIELYNCK B.

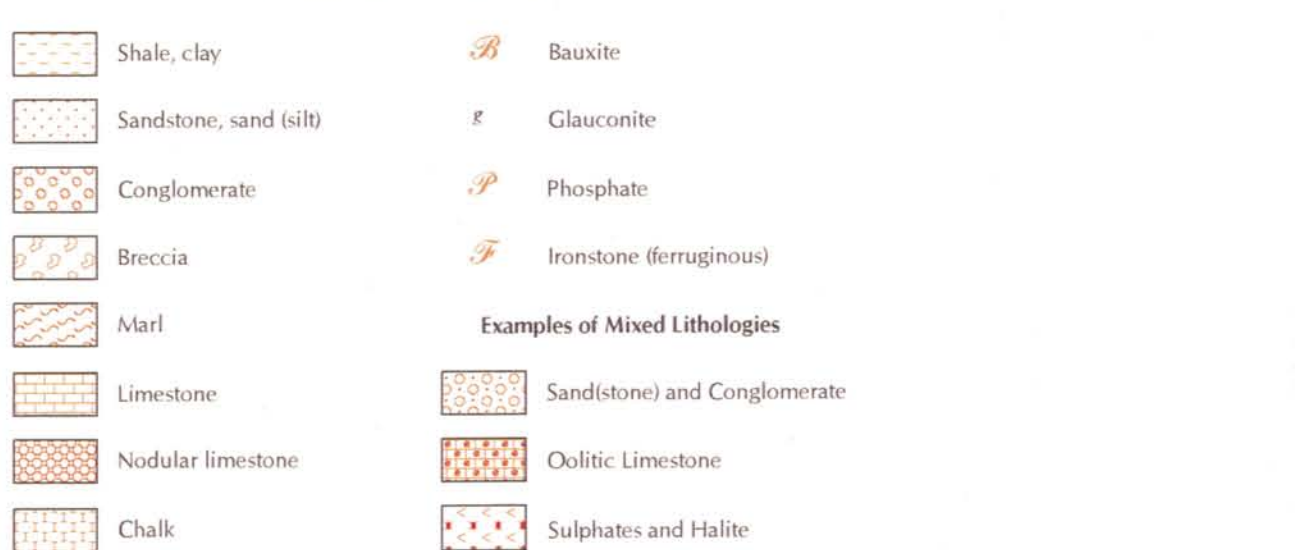
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Examples of Mixed Environments



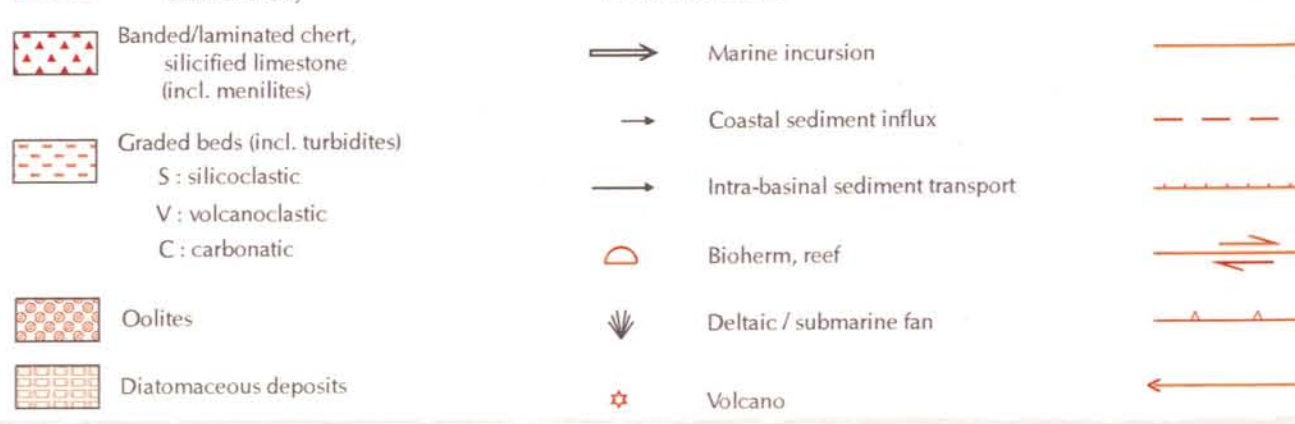
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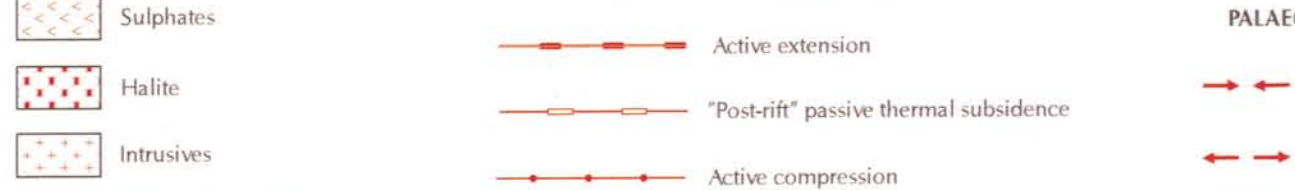
of Mixed Lithologies



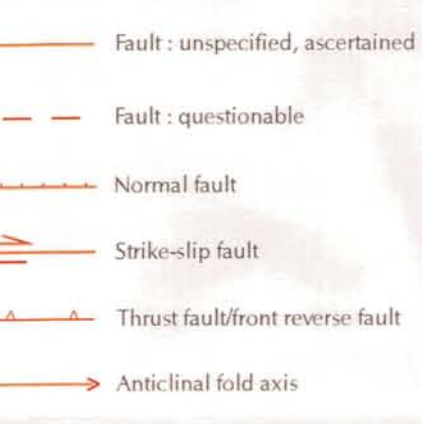
SPECIAL SYMBOL



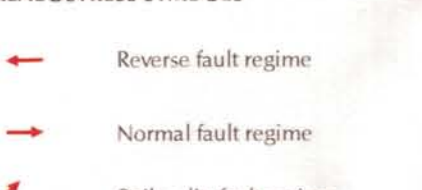
REGIONAL DEPOCENT



TECTONIC SYMBOLS



ALAEOSTRESS SYM



Atlantic Ocean



GAD	South Caspian Depression
COH	Scottish Highland
SYH	Syr Darya High
SR	Shatsky Ridge
SYB	Syr Darya Basin
TGB	Turgay Basin
TC	Terek - Caspian Depression
TST	Turgai Strait
TS	Turan Sea
UKL	Ukrainian Land
UZH	Ural High
WAH	Welsh - Anglian Highland
WAB	Western Approaches Basin
WSD	Western Black Sea Depression
WAL	Weld Anticline
WEP	West European Platform
WSB	West Siberian Basin





PERI-TETHYS Programme : DER COURT J., GAETANI M., VRIELYNCK B., BARRIER E., BIJU-DUVAL B., BRUNET M.F., CADET J.P., CRASQUIN S., SANDULESCU M.

Sponsored by:

AGIP, ARCO, BRGM, CHEVRON, CNRS-INSU, CONOCO, EAFELF, EXXON, IFP, SHELL, SONATRACH, TOTAL, UPMC.

MAP 18

LATE LUTETIAN (44-41 Ma)

Authors : MEULENKAMP J.E., SISSINGH W., BENIAMOVSKII V.N., BARRIER E.

Co-authors : ABBATE E. (8), ABDEL-CAVAD S. (10), ANDREYEV-CRIGOROVICH A.S. (5), BEN-ISMAIL K. (11), BOUJAZZ S. (11), CAHIZAC B. (2), CAIRO J.P. (1), DAAMS R. (1), GEORGIEV G. (4), HIRSCH F. (9), LONDEIX L. (2), MONZIER M. (12), PIWOCKI M. (3), PLATEL J.P. (7), ROGER J. (7), SADER A. (10), SAGRI M. (8), SCHERBA I.G. (6), STUĐENKA B. (3), ZACHIBITURKI D. (11), SANDULESCU M.

Contributors : ABBES C., BERGER J.P., BOHME M., LUGT J.R. de, KAMOUN Y., KHOILOVA I., KOPP M.L., LAGA P., NAGYMAROSY A., PRONIN V.G., RADIONOVA E.P., SOUSSI M., WONG T., YAOH C., ZHELEZKO V.I., ZOSIMOVICH V., ZOUARI H.

Co-authors for additional tectonic data : BERGERAT F., BRUNET M.F., CADET J.P., AT-ABRAHIM L. (a), BRACNER R. (a), LEPRIER C. (a)

Contributors for additional tectonic data : ANGELIER J. (b), BONNEAU M. (c), GUILLOCHEAU F. (b), JABALOY A. (j), MOSTAFA M. (h), RIMMELE G., ROBIN C. (i), ROCHER M. (d), SAINTOT A. (b)

Kinematic reconstruction : VRIELYNCK B.

Cartography & spatial database : VRIELYNCK B.

Tethyan area after the Lutetian map (Butterlin J. et al.) of the Tethys-Atlas (Dercourt J., Ricou L.E. & Vrielynck B., 1993), modified

Digits and letters on the index map refer the authorship for paleogeography and tectonics, respectively

Area with no specific authorship completed according to the literature or on author's data

Scale : 1/10 000 000 at palaeoequator
Projection : Rectilinear

DEPOSITIONAL ENVIRONMENTS

- | | |
|--|--|
| Unknown, not interpreted | Coastal marine, shallow marine (terrigenous) |
| Exposed land - non-deposition: assumed | Shallow marine carbonate deposits (platforms, build-ups and ramps) |
| Exposed land - non-deposition: ascertained | Deeper carbonates, benthic pelagic oozes |
| Eolian | Deep marine |
| Fluvial/lacustrine, fluvio-lacustrine | Deep oceanic basins |
| Glacial and fluvio-glacial | Deep environments with salinities deviating from normal ("Back-lake-marine") |
| Hypersaline | Volcanics - A: alkaline, C: calcalkaline |
| Shallow environments with fluctuating salinities | Island arc |

Examples of Mixed Environments

- | | |
|---|---|
| Fluvial/lacustrine, fluvio-lacustrine and Hypersaline | Marine carbonate build-ups and ramps and Shallow environments with fluctuating salinities |
|---|---|

LITHOLOGICAL SYMBOLS

- | | |
|---|----------------------------|
| Shale, clay | Bauxite |
| Sandstone, sand silt | Glauconite |
| Conglomerate | Phosphate |
| Brassic | Ironstone (ferruginous) |
| Marl | |
| Limestone | Sandstone and Conglomerate |
| Nodular limestone | Oolitic Limestone |
| Chalk | Sulphates and Halite |
| Dolomite | |
| Anoxic, organic shale and clay | |
| Banded/laminated chert, silicified limestone (incl. molluscs) | |
| Graded beds (incl. turbidites) | |
| S: siliciclastic | |
| V: volcanoclastic | |
| C: carbonatic | |
| Oolites | |
| Diatomaceous deposits | |
| Radiolaritic deposits | |
| Lignite, coal (peat) | |
| Sulphates | |
| Halite | |
| Intrusives | |
| Extrusives/volcanics (volcanics) | |
| Pycnoclastics | |

SPECIAL SYMBOLS

- | |
|----------------------------------|
| Marine incursion |
| Coastal sediment influx |
| Intra-basinal sediment transport |
| Bioberm, reef |
| Deltaic / submarine fan |
| Volcano |
| Mountain range |

REGIONAL DEEPENING TRENDS

- | |
|--|
| Active extension |
| "Post-rift" passive thermal subsidence |
| Active compression |

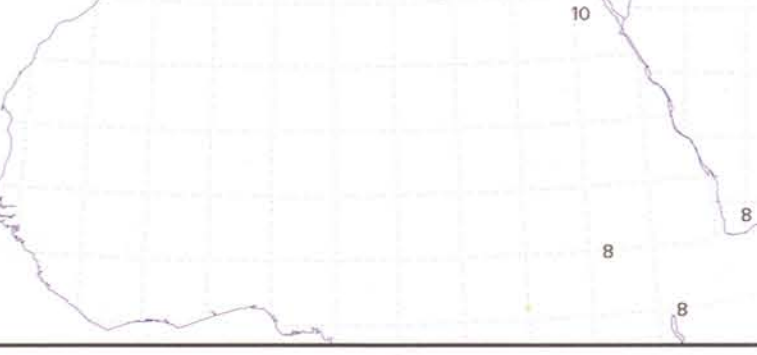
TECTONIC SYMBOLS

- | |
|----------------------------------|
| Fault: unspecified, ascertained |
| Fault: questionable |
| Normal fault |
| Strike-slip fault |
| Thrust fault/fault reverse fault |
| Anticlinal fold axis |
| Synclinal fold axis |
| Oceanic subduction |

PALEOSTRESS SYMBOLS

- | |
|--------------------------|
| Reverse fault regime |
| Normal fault regime |
| Strike-slip fault regime |

INDEX MAP



MAP 19 **LATE RUPELIAN**
(32-29 Ma)

Authors: MEULENKAMP J.E., SISSINGH W., POPOV S.V., KOVAC M., BERGERAT F.

Co-authors : ABBATE E. (9), ABDEL-GAWAD S. (11), ANDREYEV-GRIGOROVICH A.S. (5), BOUAZZIZ S. (12, 13, 4), CAHUZAC B. (2), CALVO J.P. (1), DAAMS R. (1), GEORGIEV G. (4), HIRSCH F. (10), LONDEIX L. (2), MONZER M. (14), PLATEL J.P. (8), ROGER J. (8), SADEK A. (11), SAGRI M. (9), SCHERBA I.G. (7), STOLYAROV A.S. (6), STUDENCKA B. (3), YAICH C. (13), SANDULESCU M.

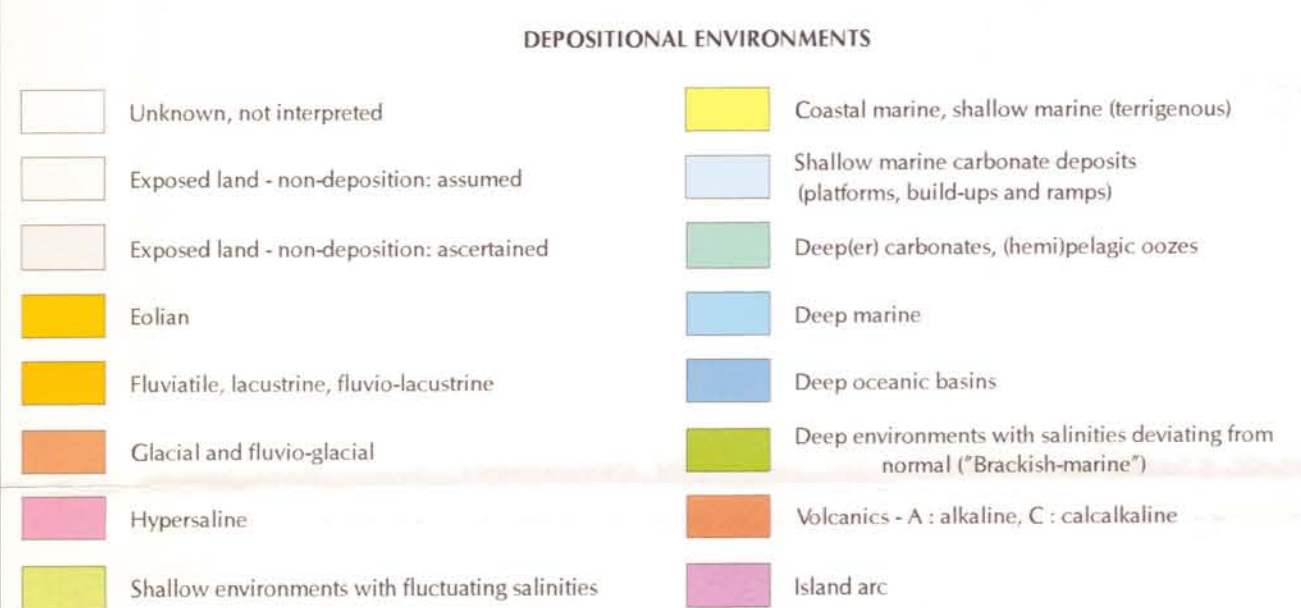
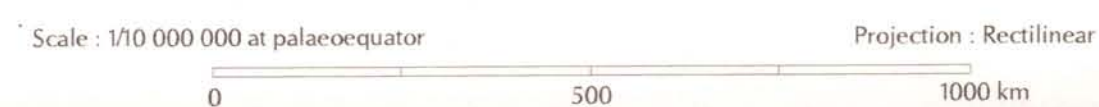
Contributors: BEN-ISMAIL K., BERGER J.P., BOHME M., CAVELIER C., LUGT I.R. de, IOSIFOVA J.I., KRI
PRONIN V.G., ROGL F., RUSU A., VASLET D., WONG T., ZHELEZKO V.I., ZOSIMOVICH V.

Co-authors for additional tectonic data : FAURE-MURET A. (a), JABALOY A. (f), MOREL J.L. (a),ORSZAG-SPERBER F. (a), PIQUE A. (a)
Contributors for additional tectonic data : BARRIER E., BRUNET M.F., CADET J.P., AIT-BAHRAIN L. (a), ANGELIER J. (b), BONNEAU M. (c), BRACENE R. (e), DARKAL A.N. (h), GUILLOTCHEAU F. (k), KOPP M. (f), LEFVRIER C. (j), MOSTAFEA M. (m), RIMMELE G., ROBIN C. (k), ROCHER M. (a), SAINTOT A. (i), SEBRIER (b), VANDYCKE S. (a)

Cartography & spatial database : VRIELYNCK B.

Tethyan area after the Late Rupelian map (Lorenz C. et al.) of the Tethys Atlas (Dercourt J., Ricou L.E. & Vrielynck B., 1993), modified

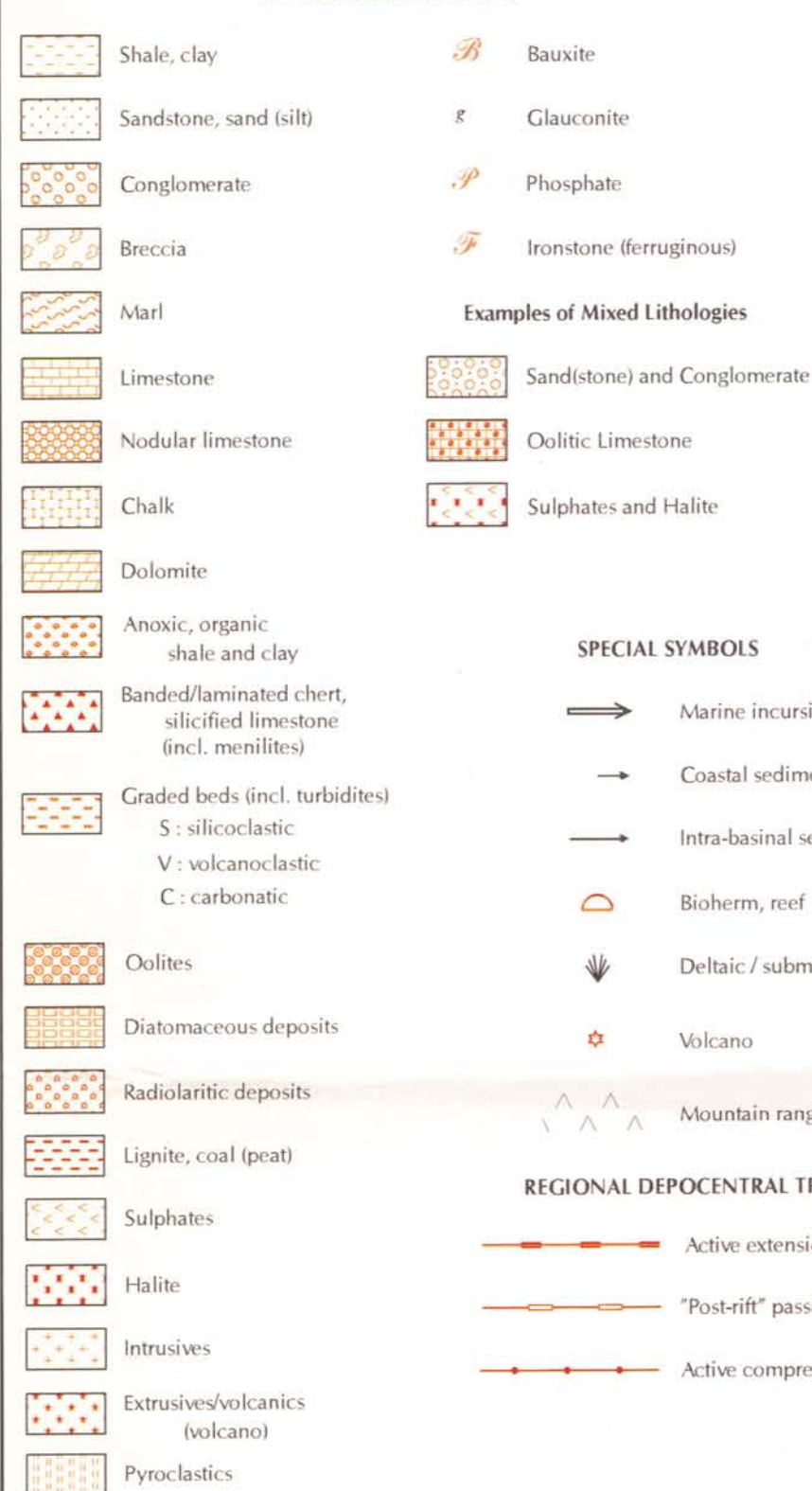
Digits and letters on the index map refer the authorship for palaeogeography and tectonics, respectively. Area with no specific authorship completed according to the literature or on author's data.



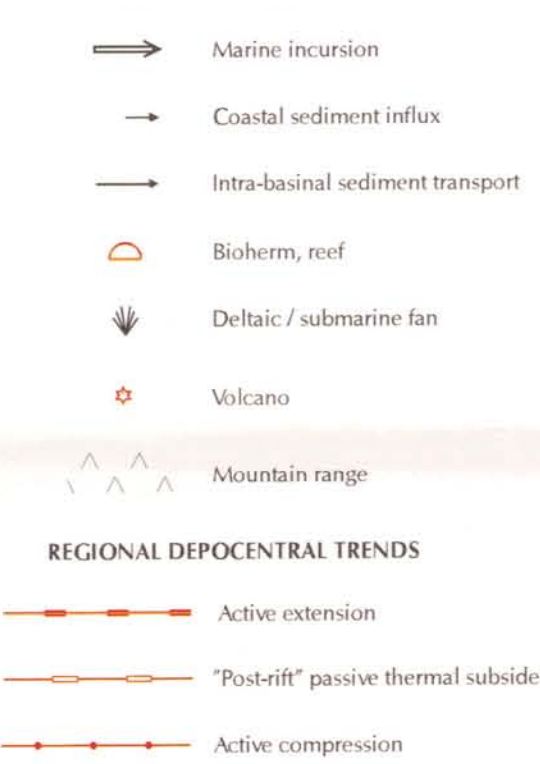
Examples of Mixed Environments

 Fluvatile, lacustrine, fluvio-lacustrine and Hypersaline

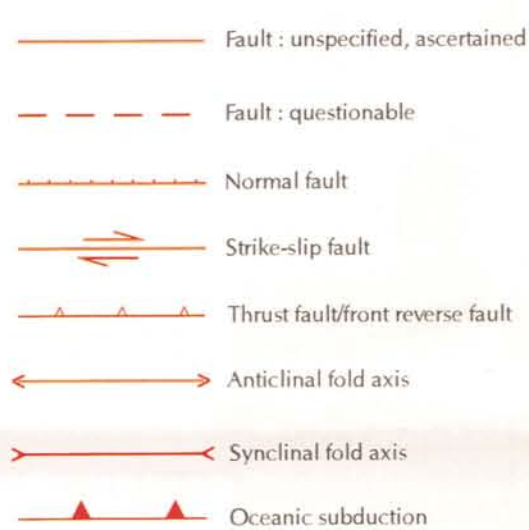
LITHOLOGICAL SYMBOLS



SPECIAL SYMBOLS



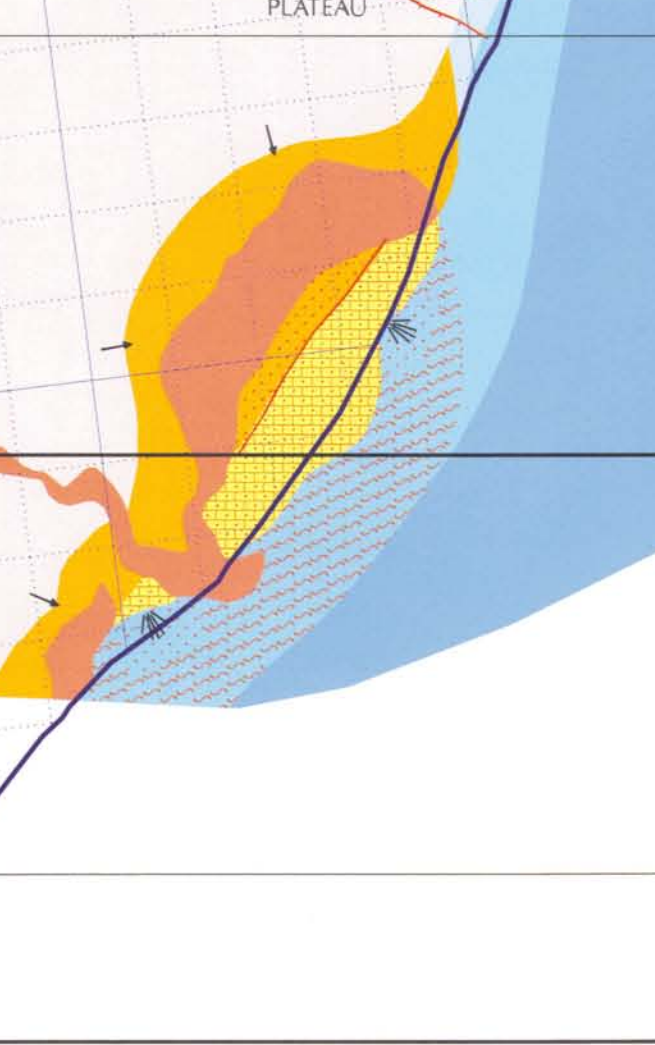
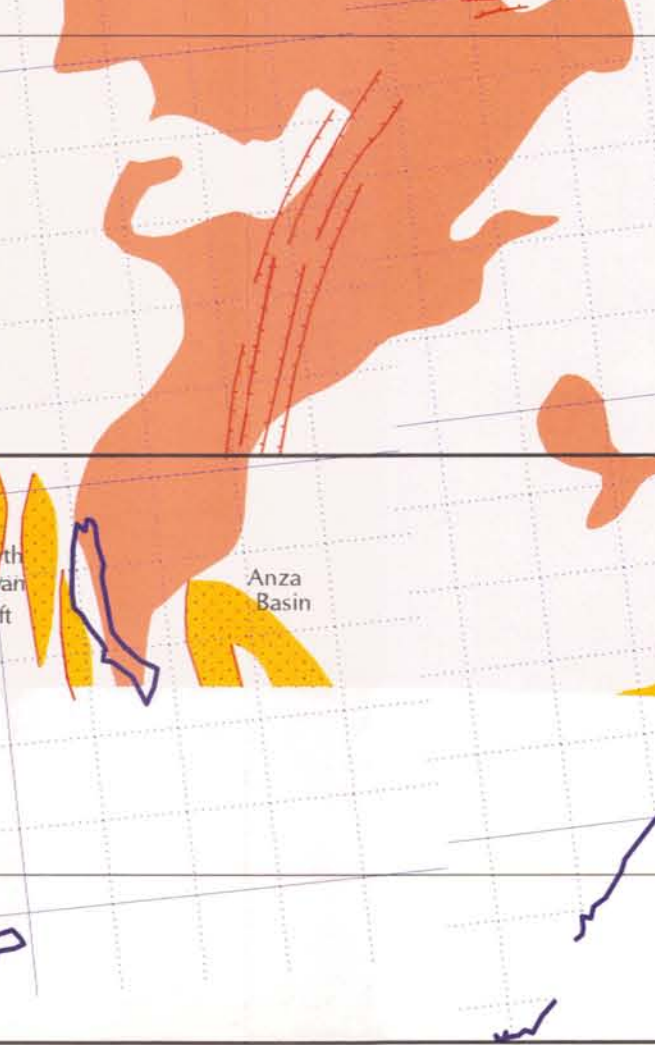
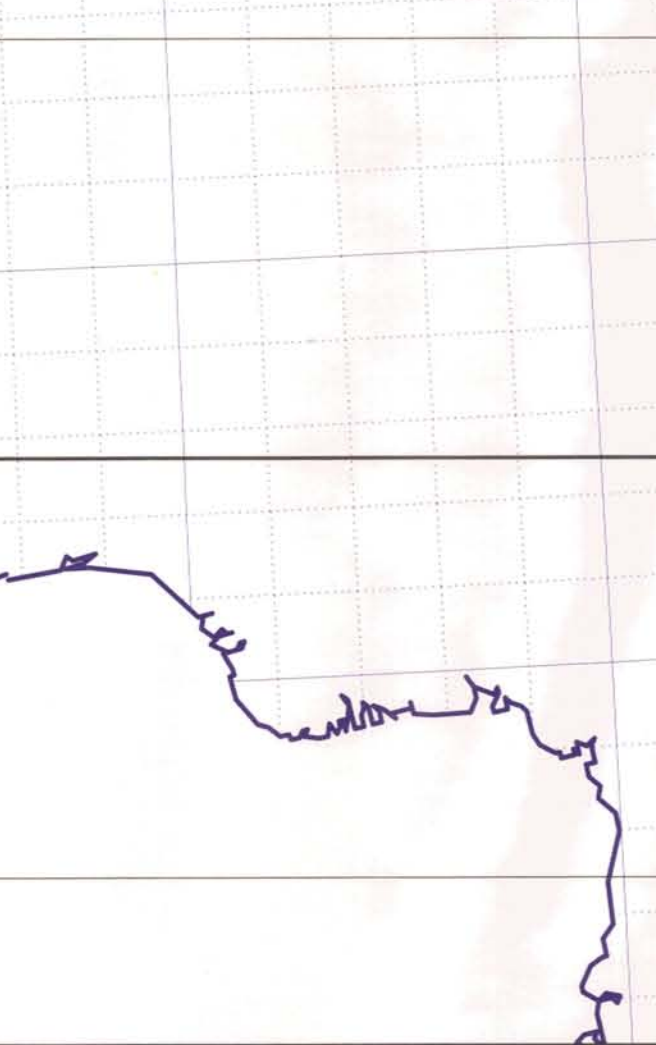
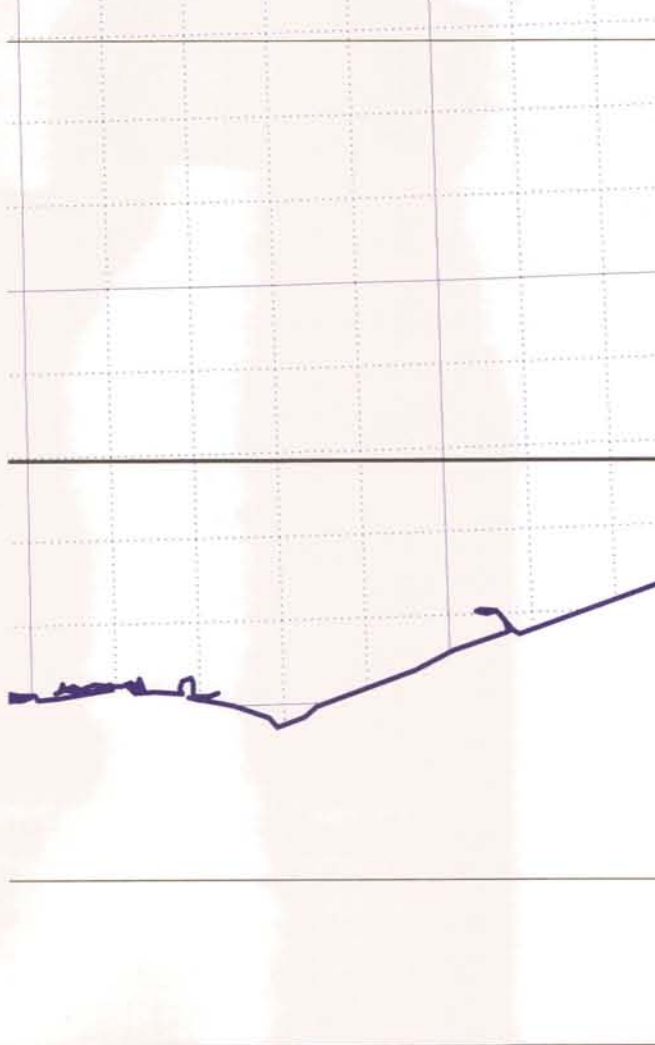
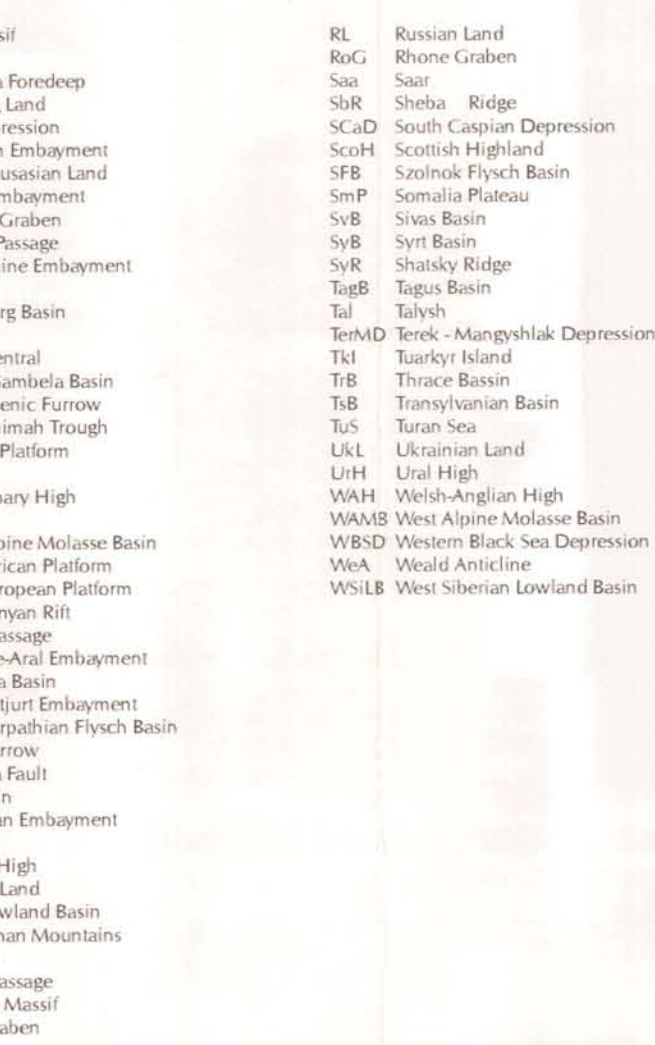
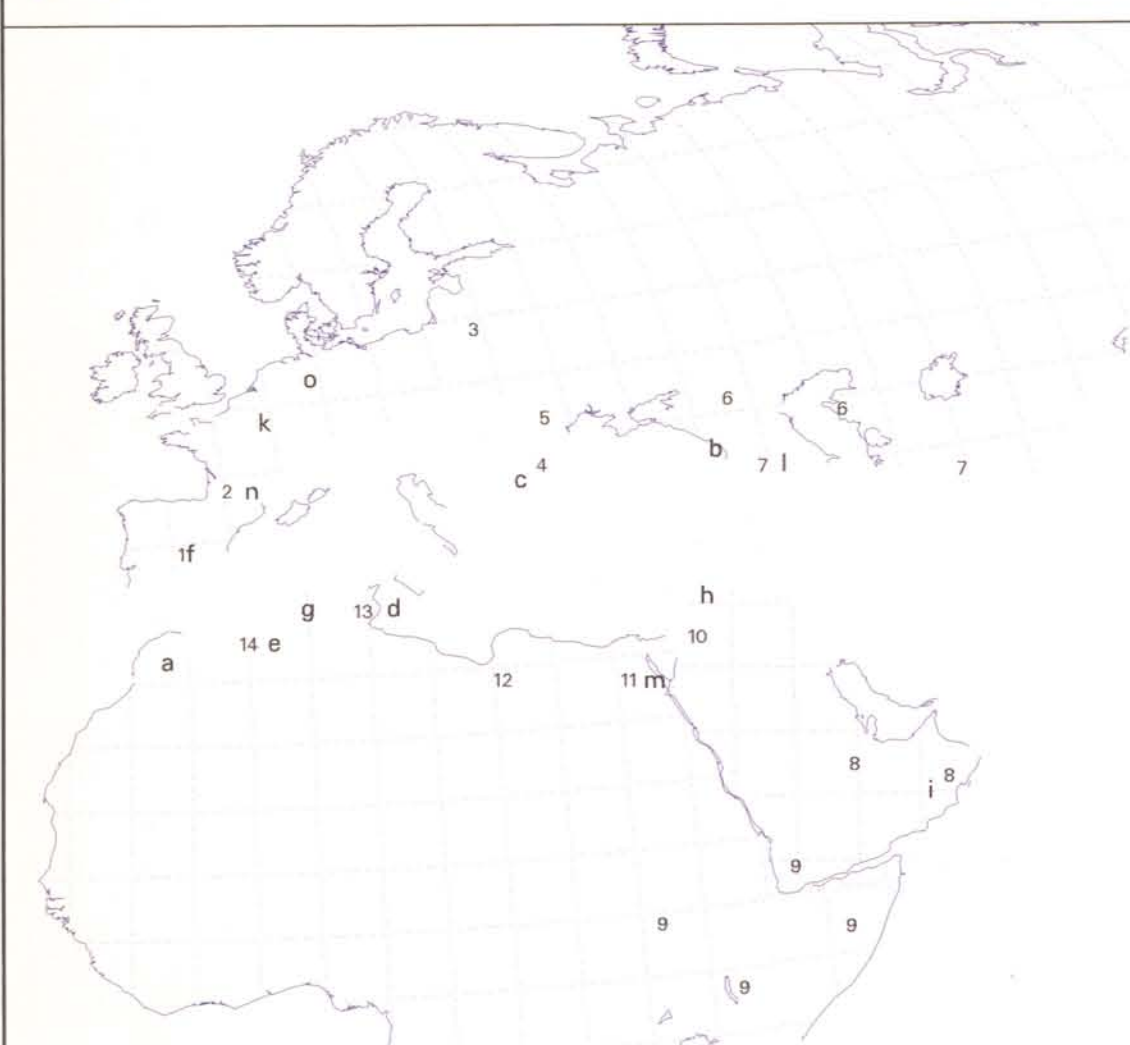
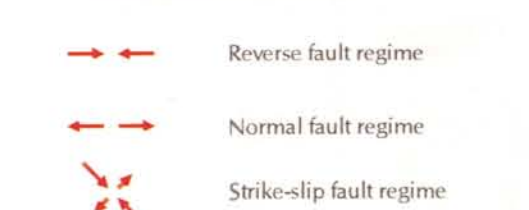
TECTONIC SYMBOLS



PALAEOSTRESS SYMBOL



PALAEOSTRESS SYMBOL





PERI-TETHYS Programme - DERCOURT J., GAETANI M., VRIEYENCK B., BARRIER E.,
BIJU-DUVAL B., BRUNET M.E., CADET J.P., CRASQUIN S., SANDULESCU M.

Sponsored by :
AGIP, ARCO, BRGM, CHEVRON, CNRS-INSU, CONOCO, EAPIELF,
EXXON, IFP, SHELL, SONATRACH, TOTAL, UPMC.

MAP 20 EARLY BURDIGALIAN (20.5-19 Ma)

Authors : MEULENKAMP J.E., SISSINGH W., POPOV S.V., KOVAC M.
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LONDESI L. (2), MARLUTTEAU M. (4), MONZER M. (12), PLATEL J.P. (9), ROGER J. (9), SADIK A. (13), SAGRI M. (10), SCHERBA I.G. (8), STOLYAROV A.S. (7), STUDENCKA B. (3),
VAICH C. (14), SANDULESCU M.
Contributors : BERGER J.P., BOHME M., CLAUZON G., IOSIFOVA J.I., JEDDI S., KRHOVSKY J., LAGA P., NAGYMAROSY A., OSZCZYPRO N., PINKHASOV B.I., POPA M., POPESCU G.,
ROGL F., WONG T., ZOSIMOVICH V.
Kinematic reconstruction : VRIEYENCK B.
Cartography & spatial database : VRIEYENCK B.

Tethyan area after the Late Burdigalian map (Cavelier C. et al.) of the Tethys Atlas (Dercourt J., Ricou L.E. & Vrielynck B., 1993), modified

Digits and letters on the index map under the authority for paleogeography and tectonics, respectively
Area with no specific authorship compiled according to the literature or on author's data

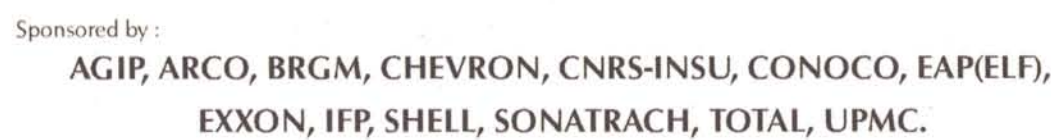
Scale : 1/10 000 000 at paleo-equator
Projection : Rectilinear
0 500 1000 km

- DEPOSITIONAL ENVIRONMENTS**
- Unknown, not interpreted
 - Exposed land - non-deposition: assumed
 - Exposed land - non-deposition: ascertained
 - Eolian
 - Fluvial, lacustrine, fluvo-lacustrine
 - Glacial and fluvioglacial
 - Hypersaline
 - Shallow environments with fluctuating salinities
 - Coastal marine, shallow marine (terigenous)
 - Shallow marine carbonate deposits (platforms, build-ups and ramps)
 - Deep(er) carbonates, thermopelagic oozes
 - Deep marine
 - Deep oceanic basins
 - Deep environments with salinities deviating from normal ("Blackish-marine")
 - Volcanics - A: alkaline, C: calcalkaline
 - Island arc
- Examples of Mixed Environments**
- Fluvial, lacustrine, fluvo-lacustrine and Hypersaline
 - Alkaline carbonate build-ups and ramps and Shallow environments with fluctuating salinities

- LITHOLOGICAL SYMBOLS**
- Shale, clay
 - Sandstone, sand (silt)
 - Conglomerate
 - Breccia
 - Marl
 - Limestone
 - Nodular limestone
 - Chalk
 - Dolomite
 - Anoxic, organic shale and clay
 - Banded/laminated chert, silicified limestone (incl. mollusks)
 - Graded beds (incl. turbidites)
 - S: silicoclastic
 - V: volcanoclastic
 - C: carbonatic
 - Oolites
 - Diatomaceous deposits
 - Radiolitic deposits
 - Lignite, coal (peat)
 - Sulphates
 - Halite
 - Intrusives
 - Extrusives/volcanics (volcano)
 - Pyroclastics
 - Bauxite
 - Glaucinite
 - Phosphate
 - Ironstone (ferruginous)
 - Sandstone and Conglomerate
 - Oolitic Limestone
 - Sulphates and Halite
- Examples of Mixed Lithologies**
- Sandstone and Conglomerate
 - Oolitic Limestone
 - Sulphates and Halite
- SPECIAL SYMBOLS**
- Marine incursion
 - Coastal sediment influx
 - Intra-basinal sediment transport
 - Bioherm, reef
 - Deltaic / submarine fan
 - Volcano
 - Mountain range
- REGIONAL DECENTRAL TRENDS**
- Active extension
 - "Post-trill" passive thermal subsidence
 - Active compression
- TECTONIC SYMBOLS**
- Fault: unspecified, ascertained
 - Fault: questionable
 - Normal fault
 - Strike-slip fault
 - Thrust fault/reverse fault
 - Anticlinal fold axis
 - Synclinal fold axis
 - Oceanic subduction
- PALAEOSTRESS SYMBOLS**
- Reverse fault regime
 - Normal fault regime
 - Strike-slip fault regime



- Legend**
- Abh: Abh. Basin
 - Al: Al. Basin
 - AM: Am. Basin
 - AN: An. Basin
 - AO: AO. Basin
 - AP: AP. Basin
 - APM: AP. M. Basin
 - APB: AP. B. Basin
 - BO: BO. Basin
 - BOB: BO. B. Basin
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 - BOU: BO. U. Basin
 - BOV: BO. V. Basin
 - BOW: BO. W. Basin
 - BOX: BO. X. Basin
 - BOY: BO. Y. Basin
 - BOZ: BO. Z. Basin
 - BOA: BO. A. Basin
 - BOB: BO. B. Basin
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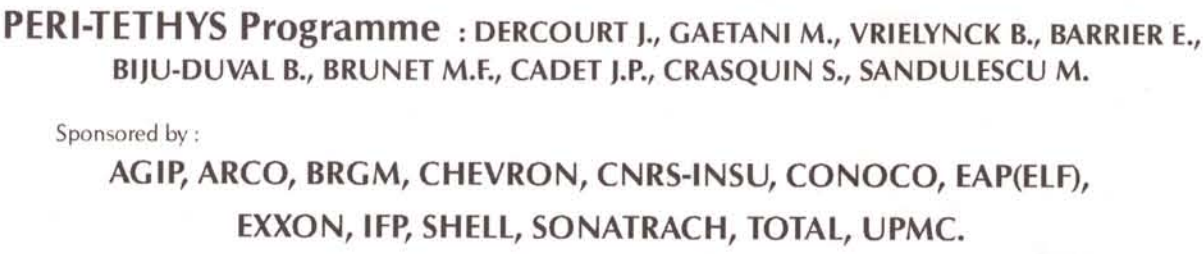


EARLY LANGHIAN

Kinematic reconstruction : VRIELYNCK B.

Digits and letters on the index map refer the authorship for palaeogeography and tectonics, respectively. Area with no specific authorship completed according to the literature or on author's data.

Scale : 1/10 000 000 at palaeoequator



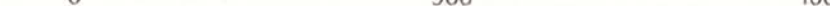
Authors: MEULENKAMP E.T.J., SISSINGH W., ILIYINA L.B., KOVAC M., BARRIER E.
 Contributors: ABBAT E. (1), ABDEL-GAWAD S. (12), ANDREYEV-KRIVONOSICH A.S. (6), BOULAZIS I. (3), DIJ, CAHUZAC B. (2), CAVO P. (1), DAMAS R. (1), FAURE-MURET A. (1), ALA G. (1), GEBRER K. (1), JEDDI S. (1), KONDORAKIS S.D. (8), LONDEN L. (2), MARUFINIWA A. (4), MONZER M. (4), PLATEL P. (9), ROGIER J. (9), SADIK A. (12), SAGRI M. (10), SCHERBA G. (7), STUDEMENKA B. (7).
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 Kinematic reconstruction: VRIELINK B.
 Cartography & spatial database: VRIELINK B.

Tethyan area after the Tortonian map (Orszag-Sperber F. et al.) of the Tethys Atlas (Dercourt J., Ricou L.E. & Vrielynck B., 1993), modified

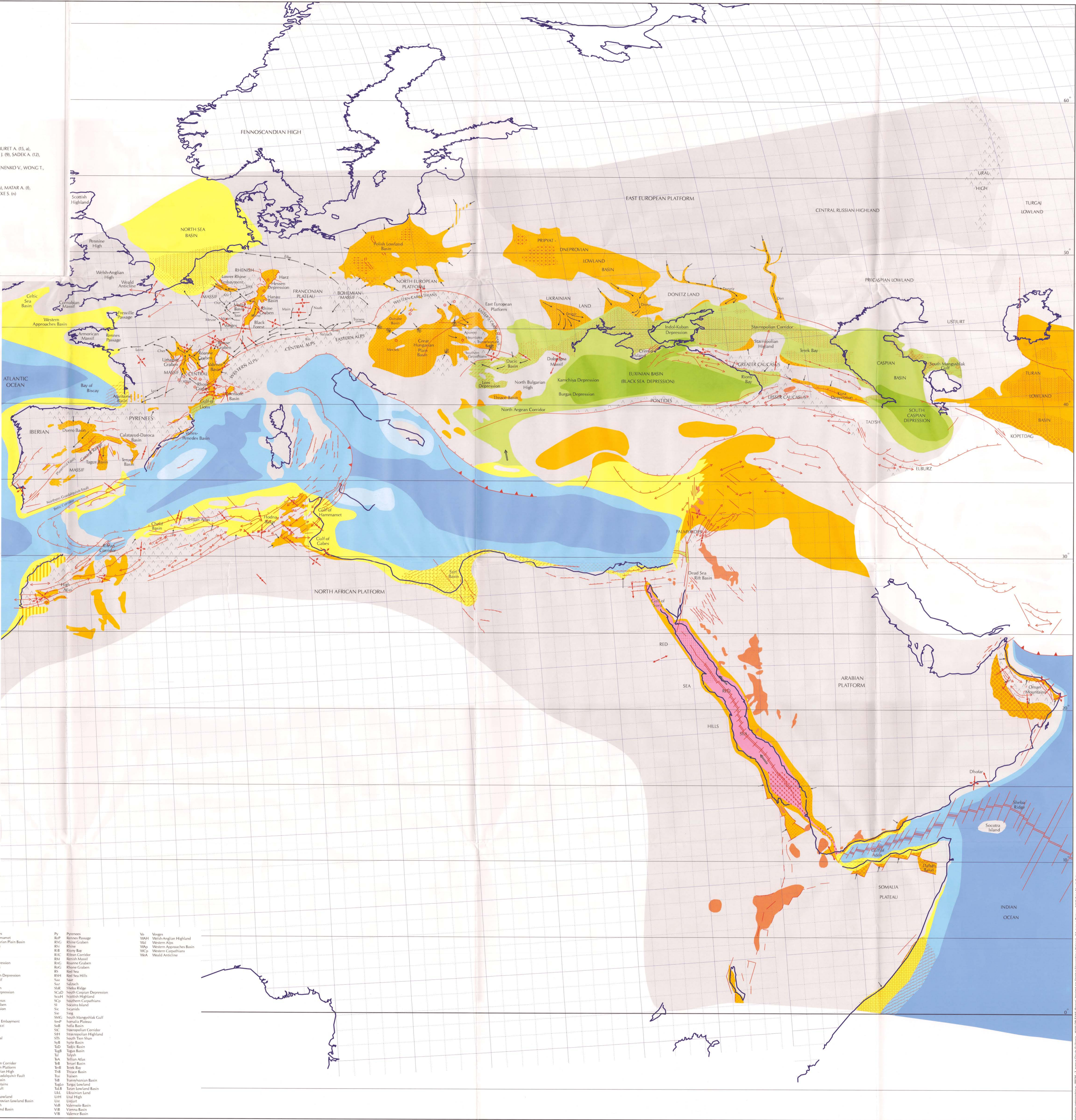
Digits and letters on the index map refer the authorship for palaeogeography and tectonics, respectively
Area with no specific authorship completed according to the literature or on author's data

Scale : 1/10 000 000 at palaeoequator

Projection : Rectilinear



0 500 1000 km



MAP 23 PIACENZIAN / GELASIAN
(3.4-1.8 Ma)

Authors : MEULENKAMP J.E., SISSINGH W., PARAMONOVA N.P., KOVAC M., BRUNET M.F.

Co-authors: ABBATE E. (9), ABDEL-GAWAD S. (11), BOUAZIZ S. (12, d), CAHUZAC B. (2), CALVO J.P. (1), DAAMS R. (1), DAMMAK F. (12), FAURE-MURET A. (13, a), GEORGIEV G. (5), HIRSCH F. (10),

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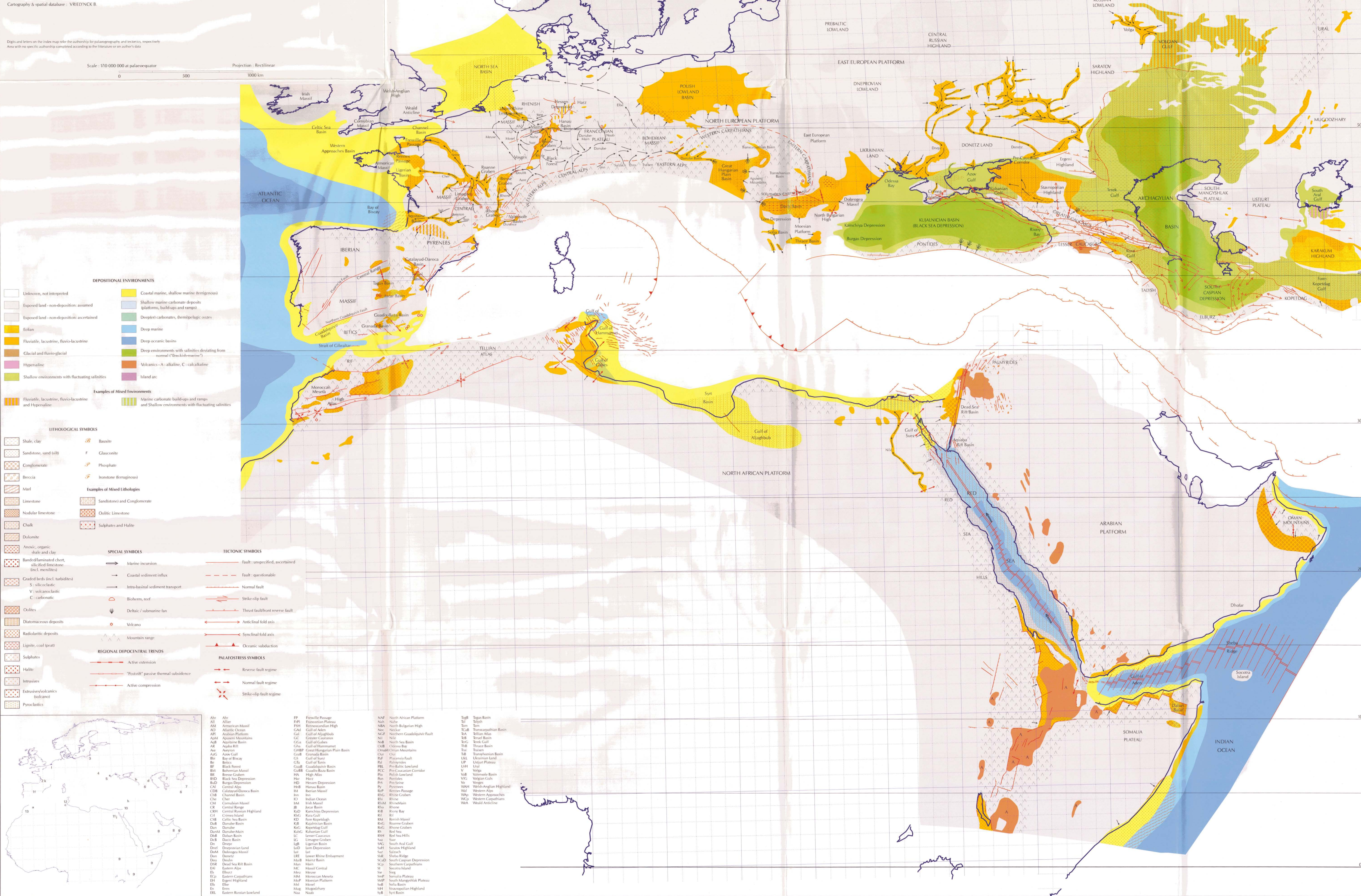
Contributors : BERGER J.P., BOHME M., CLAUZON G., IOSIFOVA J.I., KAMOUN Y., KRHOVSKY J., LAGA P., PAPAIOANOPOL I., WONG T., ZAGHBIB-TURKI D., ZASTROZHNOV

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Contributors for additional tectonic data : 08671-0869850.5 (+), 0111

ORSZAG-SPERBER F. (a), RIMMELE C.

Kinematic reconstruction : VRIELYNCK B.





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Sponsored by:
AGIP, ARCO, BRGM, CHEVRON, CNRS-INSU, CONOCO, EAFELD,
EXXON, IFP, SHELL, SONATRACH, TOTAL, UPMC.

MAP 24 LAST GLACIAL MAXIMUM (20-18 ka BP)

Authors : PEULVAST J.P. & BARRIER E.
Co-authors : RAGALA R., VANNEY J.R., VERGNE N., BERGERAT F., BRUNET M.F., CADET J.P. & DOUBRE C.
Cartography & spatial database : VRIEYCKX B.

Scale : 1/10 000 000 at paleoequator
Projection : Rectilinear

- DEPOSITIONAL ENVIRONMENTS**
- Unknown, not interpreted
 - Exposed land - non-deposition: assumed
 - Exposed land - non-deposition: ascertained
 - Glacial
 - Fluvio-glacial
 - Eolian
 - Fluvial, lacustrine, fluvio-lacustrine
 - Hypersaline
 - Shallow environments with fluctuating salinities
 - Coastal marine, shallow marine (terrestrial)
 - Shallow marine carbonate deposits (platforms, buildups and ramps)
 - Deep(er) carbonates, thermogenic coaxes
 - Deep marine (bathyal-abyssal)
 - Deep oceanic basins
 - Deep environments with salinities deviating from normal ("blackish-marine")
 - Volcanics - A: alkaline, C: calcalkaline

- LITHOLOGICAL SYMBOLS**
- Shale, clay
 - Sandstone, sand (silt)
 - Conglomerate
 - Breccia
 - Marl
 - Limestone
 - Nodular limestone
 - Chalk
 - Dolomite
 - Anoxic, organic shale and clay
 - Banded/laminated chert, silicified limestone (fired, fossiliferous)
 - Graded beds (incl. turbidites)
 - S: siliciclastic, V: volcanoclastic, C: carbonatic
 - Oolites
 - Diatomaceous deposits
 - Radiolantic deposits
 - Lignite, coal (peat)
 - Sulphates
 - Halite
 - Intrusives
 - Extrusive/volcanics
 - Pyroclastics
 - Bauxite
 - Glaucinite
 - Phosphate
 - Ironstone (feruginous)
 - Examples of Mixed Lithologies
 - Sandstone and Conglomerate
 - Oolitic Limestone
 - Sulphates and Halite

- SPECIAL SYMBOLS**
- Paleoceanlines
 - Continuous permafrost (southern or lower limit)
 - Discontinuous permafrost (southern or lower limit)
 - Bioherm, reef
 - Main turbiditic flow pathway
 - Deltaic / submarine fan
 - Polar front (strong thermohaline western gradient)
 - Surface currents
 - Upwelling - Downwelling
 - ALUS: Arabian Upwelling system
 - CMC: Canary-Moroccan Current
 - MUS: Moroccan Upwelling system
 - NAD: North Atlantic Drift
 - SUS: Somali Upwelling system
 - WINDS SYMBOLS**
 - Prevailing winds
 - Limit of strong eolian supplies
 - TECTONIC SYMBOLS**
 - Fault: unspecified, ascertained
 - Fault: questionable (in isolated basins)
 - Normal fault
 - Strike-slip fault
 - Thrust fault/fault reverse fault
 - Anticlinal fold axis
 - Synclinal fold axis
 - Volcano
 - WATER BUDGET SYMBOLS**
 - 1: Thermohaline connection
 - 2: Thermohaline connection with deep stagnation in isolated basins
 - 3: Blackish basins, stratified water column, deep stagnation
 - 4: Hypersaline basin, stratified water column, deep stagnation

- LANDFORMS**
- Mountains, high plateaus
 - Low plateaus, plains, piedmont areas and low slopes of mountains areas

